SERVICE MANUAL

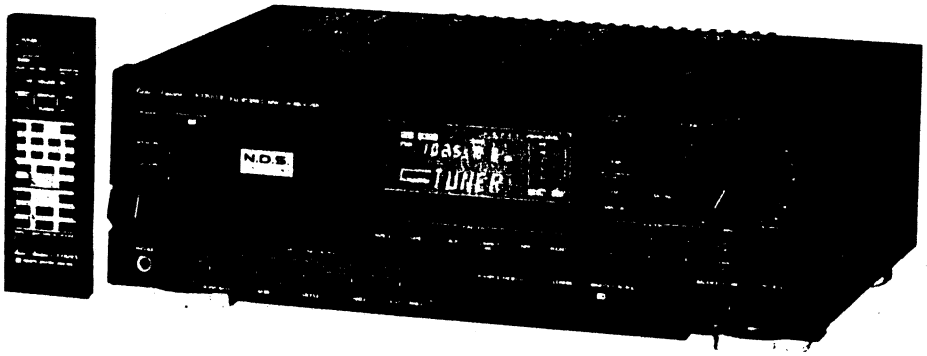
FISHER

FM STEREO MW/LW RECEIVER WITH REM-915 WIRELESS REMOTE CONTROL

RS-913

(EUROPE)

RS-1913



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SPECIFICATIONS

Remote Control (REM-915) ..... 38-function, wireless remote control

POWER AMPLIFIER SECTION

Minimum RMS sine wave power per channel within stated bandwidth at no more than stated
Distortion and with 8Ω load ..... 100W (DIN)
Total Harmonic Distortion 0.09%
I.M.Distortion 0.09%
Speaker Damping ..... >20

PREAMPLIFIER SECTION

Frequency Response
- Phono (RIAA) ..... ±2dB
- AUX (20Hz ~ 20kHz) ..... +0, −2dB

Input Sensitivity and Impedance
- Phono 2.5mV/50kΩ
- Tape Monitor 1,2 ..... 150mV/50kΩ
- AUX/CD 150mV/50kΩ

Phono Max. Input Capability 150mV

Graphic Equalizer
- 63Hz ..... ±10dB
- 250Hz ..... ±10dB
- 1kHz ..... ±10dB
- 4kHz ..... ±10dB
- 16kHz ..... ±10dB

Loudness Contour (100Hz/10kHz) ..... +9dB/+4dB

Hum and Noise (IHF Short Circuit, A Network)
- Phono 70dB
- Tape Monitor 1,2 ..... 80dB
- AUX/CD 80dB
- Source Direct (AUX) 80dB

FM SECTION

Usable Sensitivity
- Mono 1.0µV

46dB Quieting Sensitivity
- Mono 4.0µV

Signal-to-Noise Ratio
- Mono 70dB
- Stereo 63dB

Capture Ratio 2.0dB
Alt. Channel Selectivity(±300kHz) 55dB
Image Response Ratio 70dB
Spurious Response Ratio 95dB
If Response Ratio ..... >90dB
AM Suppression Ratio 55dB

Total Harmonic Distortion at 60dBf
- Mono (1kHz) 0.2%
- Stereo (1kHz) 0.25%

Stereo Separation
(100Hz/1kHz/10kHz) 40/40/30dB

– Specifications and design are subject to change without notice. –

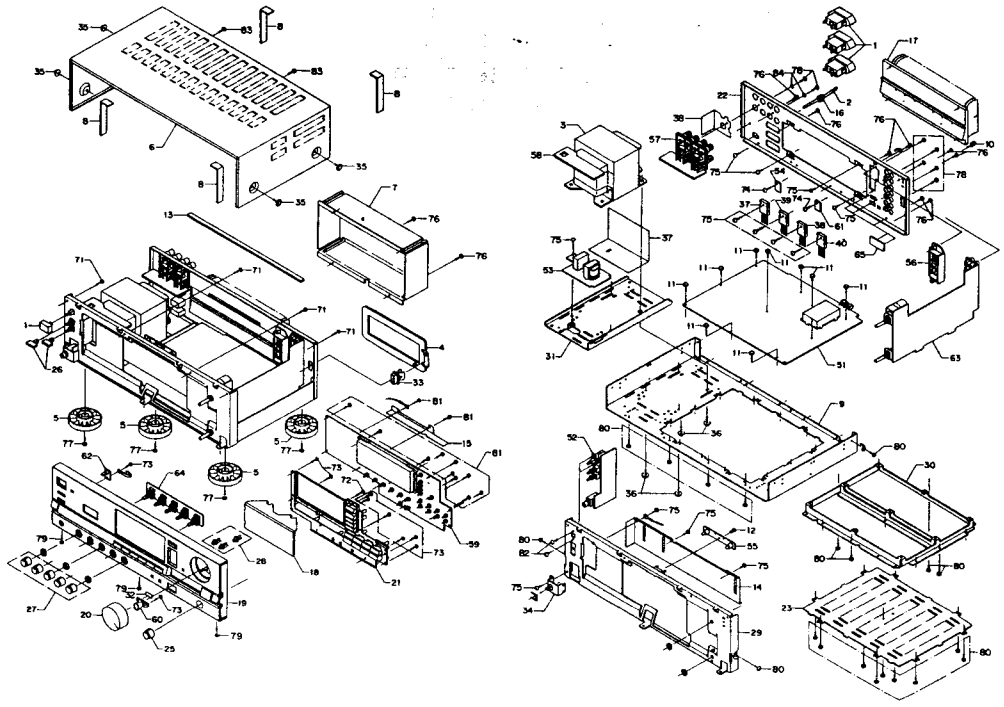
REFERENCE No. WM-570087

SPECIFICATIONS (Continued)

Sub-Carrier Rejection (19kHz/38kHz)	30/40dB
Audio Frequency Response (20Hz ~ 15kHz)	±3.0dB
MW SECTION	
Usable Sensitivity	650μV/m
Selectivity (±9kHz)	40dB
Signal-to-Noise Ratio	55dB
Image Response Ratio	35dB
IF Response Ratio	65dB
LW SECTION	
Usable Sensitivity	2000μV/m
Selectivity (±9kHz)	40dB
Signal-to-Noise Ratio	50dB
Image Response Ratio	45dB
IF Response Ratio	65dB
GENERAL	
Power Requirements	AC 220V
(50Hz)	215 Watts
AC Outlet	3
Dimensions (WxHxD)	440 x 148 x 332mm
Weight (approx.)	10kg

– Specifications and design are subject to change without notice. –

CABINET & CHASSIS EXPLODED VIEW



CABINET & CHASSIS PARTS LIST

Ref. No.	Part No.	Description	Q'ty
PACKAGE			
	620 000 0024	Bag Polyethylene	1
	620 186 6476	Pad (Front)	1
	620 186 6483	Pad (Rear)	1
	620 193 5394	Pad	1
	620 059 6596	Patching Sheet	1
	620 062 0543	Serial No. Sheet	2
	620 191 8571	Box Corrugate-Exp.	1
	620 148 5639	Poly Cover (Loop Antenna)	1
	620 148 8012	Sheet Polyethylene	1
ACCESSORIES			
	620 191 6522	REM-915 (Remote Control)	1
	620 038 1673	FM Antenna Assy	1
	620 057 8783	Bag Fan	1
	620 062 0543	Serial No. Sheet	1
	620 112 8123	Holder Antenna	1
	620 152 2624	Certificate Card	1
	620 191 6706	Explanatory Booklet	1
CABINET			
	620 020 3289	Connector 1P Assy	1
	620 022 3454	Terminal Lug	2
	620 022 3461	Terminal Lug	1
	620 062 0543	Serial No. Sheet	1
	620 125 8110	Lug	1
	620 125 8424	Wire Band	14
C503	403 004 0500	CERAMIC 0.047U K 25V	1
1	⚠ 620 017 1212	AC Socket	3
2	⚠ 620 023 7550	Power Cord	1
3	⚠ 620 191 8830	Power Trans	1
4	620 028 2741	AM Loop Antenna	1
5	620 185 2752	Leg Assy	4
6	620 045 4711	Cover	1
7	620 191 4474	Cover Heat Sink	1
8	620 048 4541	Metal Reinforce	4
9	620 186 9323	Chassis	1
10	620 051 2152	Screw Ground	1
11	620 051 3746	Screw 3X10	8
12	620 052 1659	Rivet	1
13	620 052 4155	Cushion	1
14	620 189 4233	Plate Shield	1
15	620 190 4369	Plate Shield	1
16	620 053 2136	Bushing (Power Cord)	1
17	620 191 4498	Heat Sink	1
18	620 187 5690	Filter	1
19	620 191 4580	Cabinet Front Assy	1
20	620 186 6711	Knob Volume Assy	1
21	620 191 4658	Mount Knob Assy	1
22	620 191 4733	Panel Rear	1
23	620 186 9682	Bottom Cover	1
24	620 186 4014	Knob (Power)	1
25	620 185 3186	Knob (Balance)	1
26	620 185 3223	Knob (Speaker)	2
27	620 185 3711	Knob (Equalizer)	5
28	620 185 3728	Knob (Muting/Power Standby/Loudness)	3
29	620 187 6512	Panel Front	1
30	620 187 0138	Sub Chassis	1
31	620 187 6550	Metal Reinforce	1
32	620 123 7658	Sheet	1
33	620 122 2210	Holder Antenna	1
34	620 185 3285	Bracket Mount H.P	1
35	620 123 0284	SCR TPG BIN + M4.0X8	4
36	620 123 0833	SCR Bind TAP-B + M4X10	4
37	620 192 6811	Plate Sever	1
38	620 192 6828	Plate Sever	1
39	405 031 2205	TR 2SA1302-R [Q903]	1
or	405 003 4008	TR 2SA1302-O	1
40	405 031 2205	TR 2SA1302-R [Q904]	1
or	405 003 4008	TR 2SA1302-O	1
41	405 017 7903	TR 2SC3281-R [Q901]	1
or	405 017 7804	TR 2SC3281-O	1
42	405 017 7903	TR 2SC3281-R [Q902]	1
or	405 017 7804	TR 2SC3281-O	1
51	620 191 6089	RF Main P.C.B. Assy	1
52	620 191 4627	AC Switch P.C.B. Assy	1
53	620 191 5501	Sub Trans P.C.B. Assy	1
54	620 191 5518	Bias Left P.C.B. Assy	1
55	620 191 5525	Lamp P.C.B. Assy	1
56	620 191 5532	Antenna P.C.B. Assy	1
57	620 191 5549	Speaker Terminal P.C.B. Assy	1
58	620 191 5556	Trans Terminal P.C.B. Assy	1
59	620 191 6096	Control P.C.B. Assy	1
60	620 191 6102	Volume LED P.C.B. Assy	1
61	620 191 5563	Bias R P.C.B. Assy	1
62	620 191 6119	Power LED P.C.B. Assy	1
63	620 191 6126	PRE Amplifier P.C.B. Assy	1
64	620 191 6133	Graphic EQ. Volume P.C.B. Assy	1
65	620 191 5570	CD Remocon P.C.B. Assy	1
71	411 020 5201	SCR S-TPG BRZ 2.6X10	4
72	411 020 5300	SCR S-TPG BRZ 2.6X12	1
73	411 020 5706	SCR S-TPG BRZ 2.6X8	10
74	411 020 5904	SCR S-TPG BRZ 3X10	6
75	411 020 7700	SCR S-TPG BRZ 3X6	9
76	411 099 9704	SCR S-TPG BRZ 3X6	10
77	411 020 8004	SCR S-TPG BRZ 3X8	4
78	411 099 9803	SCR S-TPG BRZ 3X8	7
79	411 021 3206	SCR S-TPG BIN 2.6X8	3
80	411 021 5705	SCR S-TPG BIN 3X6	20
81	411 023 3303	SCR S-TPG PAN 2.6X8	12
82	411 003 8908	SCR PAN + SW 3X6	2
83	411 070 0607	SCR TPG BRZ 3X8	2
84	411 087 0102	WASHER In TW 3	2

NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

CAUTION ON RF ADJUSTMENT

This model uses a microprocessor for memory preset control for the various bands.
This function has been used to preset frequency points for the different bands to permit adjustment and make it possible to check the function of the microprocessor. To use this supplemental function, press the POWER STANDBY button for approximately 5 seconds so that the frequency points show in the following table before beginning adjustment. The following table shows the initially preset frequencies.

Band	Memory					
	1	2	3	4	5	6
FM-1	87.5MHz	108MHz	88MHz	98MHz	108Hz	90MHz
MW/LW	603kHz	1404kHz	999kHz	160kHz	350kHz	250kHz

FM TUNER ALIGNMENT

FM ALIGNMENT – Band Selector switch to FM/ST(MUTE) position.
Note is almost unnecessary to adjust coil in Front End as perfectly adjusted.

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. FM IF S-CURVE ALIGNMENT	Connect 10.7MHz Radio IF Genescope output to Pin IF (Front End) and ground lead to chassis. Use 5pF capacitor in series with generator output lead.	Position of non-interference Minimum Frequency.	Connect Radio IF Genescope input to TP3 and ground lead to chassis.	Adjust FM DET 1 Coil (T102) and FM DET 2 (T103) so that S-wave from becomes symmetrical.
2. FM RF FREQUENCY COVER ALIGNMENT (87.5MHz)	Do not connect Generator.	Set Preset STATION button to "1" position. Set to 87.5MHz.	Connect DC Voltmeter to Pin B2 (Front End) and ground lead to chassis.	Adjust FM OSC Coil (L6) until DC Voltmeter reads 1.5V ±0.05V.
3. (108MHz)	Same as above.	Change Preset STATION button to "2" position. Set to 108MHz.	Same as above.	Check the DC Voltmeter reads 7V ~ 9V.
Note: Repeat the adjustments in Items 2 and 3. Then, confirm that each voltage becomes 1.5V to 8.3V at receiving frequency of 87.5MHz to 108MHz. **(See Table 2)**				
4. FM RF TRACKING ALIGNMENT (88MHz)	Connect FM RF Signal Generator through FM Dummy Antenna to FM Antenna terminals. Set Generator to 88MHz or 108MHz. Modulate with 1kHz to provide ±75kHz deviation. Set Generator output with attenuator as low as possible.	Set Preset STATION button to "3" position. Set to 88MHz.	Connect AC VTVM and Oscilloscope to Tape REC OUT Terminals.	Adjust FM RF Coil (L2, L4, L5) for maximum gain output. **Do not touch the Coil (L1 and L3)**
5. (108MHz)		Change Preset STATION button to "2" position. Set to 108MHz.	Same as above.	Adjust FM RF Trimmer (TC1, TC2, TC3) for maximum gain output
Note: Repeat the adjustments in Items 4 and 5. Then, confirm there is no tracking error.				
6. DETECTOR ADJUSTMENT (MINIMUM T.H.D.)	Connect FM RF signal generator through FM Dummy Antenna to FM Antenna terminals. Set generator to 98MHz ±2kHz. Modulate with 1kHz to provide ±40kHz deviation. Setting generator with attenuator output level for 60dBμV.	Set MODE switch to FM MONO position and Preset STATION button to "4" posion. Set to 98MHz.	Connect DC Voltmeter across TP1 and TP2.	Adjust FM DET 1 Coil (T102) until DC Voltmeter reads 0V ±50mV.
			Connect Harmonic Distortion Analyzer to REC OUT.	Adjust FM DET 2 Coil (T103) for minimum gain and best linearity.
Note: Repeat Step 1 (FM DET 1 Coil T102) and 2 (FM DET 2 Coil T103) until optimum alignment is reached.				

FM TUNER ALIGNMENT (Continued)

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
7. FM STEREO SIGNAL SEPARATION CONTROL	Connect FM Stereo SG to FM Antenna terminals. 19kHz signal ON. Main channel, sub channel signal ON. Apply 1000Hz signal from LEFT channel.	Same as above Set MODE switch to FM ST/MUTE position.	Connect AC VTVM and Oscilloscope to REC OUT.	Adjust VR103 for minimum output.
	Same as above for RIGHT channel.		Connect AC VTVM and Oscilloscope to REC OUT.	
8. FM MUTING AUTO STOP SENSITIVITY ADJUSTMENT	Set generator to 98MHz. Adjust attenuator output level to 18dBμV.	Same as above.	Front panel TUNED Indicator Display.	Adjust VR101 until the TUNED Indicator partly light up.
Note: Decrease the output level of ATT and confirm that the wave form disappears. Increase the output level of ATT again and confirm that the input level meets the specifications sufficiently when the wave form has appeared.				

Use a screwdriver with plastic grip for all adjustments.

FM Frequency Cover Range
Tuning Voltage Value at B2 (Front End)
(Table 1)

	87.5MHz	108MHz
Minimum	1.4V	7.0V
Typical	1.5V	8.3V
Maximum	1.6V	9.0V

MW Frequency Cover Range
Tuning Voltage Value at TP (R147)
(Table 2)

	522kHz	1611kHz
Minimum	0.7V	
Typical	1.0V	8.0V
Maximum		9.0V

LW Frequency Cover Range
Tuning Voltage Value at TP (R147)
(Table 3)

	153kHz	360kHz
Minimum	0.8V	
Typical	1.0V	7.5V
Maximum		9.0V

AM TUNER ALIGNMENT

AM ALIGNMENT – Band Selector switch to MW or LW position.
Maintain generator output as low as possible for suitable indication.

Note: Perform this alignment after FM Tuner Alignment.

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
1. AM IF ALIGNMENT	Connect 450kHz Radio IF Genescope output to Pin W1 and W2 Adjust output level to 70dBμV.	Position of non-interference Minimum Frequency.	Connect Radio IF Genescope input to TP4 and ground lead to chassis.	Adjust AM IFT (T105) for maximum gain and best symmetry. Keep signal low enough for noise on response.
2. MW RF FREQUENCY COVER ALIGNMENT (1611kHz)	Do not connect generator.	Front Panel DIGITAL Counter Display Set to 1611kHz.	Connect DC Voltmeter to TP (R147) and ground lead to chassis.	Check DC Voltmeter for Indication 8.0V ~ 9.0V.
3. (522kHz)	Same as above.	DIGITAL Counter Display Set to 522kHz.	Same as above.	Check DC Voltmeter for Indication 0.7V ~ 1.0V.
Note: Repeat the adjustments in items 2 and 3. Then, confirm that each voltage becomes 1.0V to 8.0V at receiving frequency of 522kHz to 1611kHz. **(See Table 2)**				
4. LW RF FREQUENCY COVER ALIGNMENT (360kHz)	Do not connect generator.	Front Panel DIGITAL Counter Display Set to 360kHz.	Connect DC Voltmeter to TP (R147) and ground lead to chassis.	Check DC Voltmeter for Indication 7.5V ~ 9.0V.

AM TUNER ALIGNMENT (Continued)

ITEM	GENERATOR	DIAL SETTING	INDICATOR	PROCEDURE
5. (153kHz)	Same as above.	DIGITAL Counter Display Set to 153kHz.	Same as above.	Check DC Voltmeter for Indication 0.8V ~ 1.0V.
Note: Repeat the adjustments in Items 4 and 5. Then, confirm that each voltage becames 1.0V to 7.5V at receiving frequency of 153kHz to 360kHz. **(See Table 3)**				
6. MW RF TRACKING ALIGNMENT (603kHz)	Connect Standard Loop Antenna to output terminal of AM RF Signal Generator. Place Loop Antenna 60cm away from Loop antenna (Unit). Generator Setting to 603kHz or 1404kHz. Modulate with 400Hz (30 % modulation).	Set Preset STATION button to "1" position. Set to 603kHz.	Connect AC VTVM and Oscilloscope to REC OUT.	Adjust MW ANT Coil (T101) for maximum gain output.
7. (1404kHz)		Change Preset STATION button to "2" position. Set to 1404kHz.	Same as above.	Adjust MW ANT Trimmer (TC101) for maximum gain output.
Note: Repeat the adjustments in Items 6 and 7. Then, confirm there is no tracking error.				
8. LW RF TRACKING ALIGNMENT (160kHz)	Change generator setting to 160kHz.	Set Preset STATION button to "4" position. Set to 160kHz.	Connect AC VTVM and Oscilloscope to REC OUT.	Adjust LW ANT Coil (T106) for maximum gain output.
9. (350kHz)	Change generator setting to 350kHz.	Change Preset STATION button to "5" position. Set to 350kHz.	Same as above.	Adjust LW ANT Trimmer (TC102) for maximum gain output.
Note: Repeat the adjustments in Items 8 and 9. Then, confirm there is no tracking error.				
10. AM AUTO STOP SENSITIVITY ADJUSTMENT	Change generator setting to 999kHz and output level to 60dBμV/m.	Set Preset STATION button to "3" position. Set to 999kHz.	Front Panel TUNED Indicator Display.	Adjust VR102 until the indicator partly light up.

Use a screwdriver with plastic grip for all adjustments.

POWER AMPLIFIER ADJUSTMENT

BEFORE ADJUSTMENT

Unplug the AC power cord and set the front panel controls as follows:

- Power Switch to OFF position.
- Set the SPEAKERS Switch to the OFF position.
- Turn the MASTER VOLUME Control to minimum.
- Connect the AC power cord and Power Switch to the ON position.

IDLING CURRENT ADJUSTMENT

This adjustment is very sensitive to changes in ambient temperature. Allow set to operate for 2 minutes before attempting this alignment.

LEFT AMPLIFIER

1. Connect the DC Voltmeter between Pins TP5 and TP6 on the Main P.C.Board.
2. Adjust the VR105 for an indication of 6mV ±1mV on the DC Voltmeter.

RIGHT AMPLIFIER

1. Connect the DC Voltmeter between Pins TP7 and TP8 on the Main P.C.Board.
2. Adjust the VR104 for an indication of 6mV ±1mV on the DC Voltmeter.

P.C.BOARD PARTS LIST

Ref. No.	Part No.	Description	Q'ty
RF MAIN P.C.B. ASSY			
51	620 191 6089	RF Main P.C.B. Assy	1
	620 000 4152	FM Frontend 4EU AGC	1
(Component parts used in Front End are not serviceable and available.)			
	620 017 0413	Relay	1
	620 017 2738	Fuse Clip	8
	620 022 4901	Terminal 1P	1
	411 020 7700	SCR S-TPG BRZ 3X6	10
	620 031 4763	Wire Wrap Terminal	8
	620 053 9241	Plate Heat Sink	8
	620 120 7064	Plate Heat Sink	2
CF101	620 014 6036	Ceramic Filter 10.7MHz	1
CF102	620 014 6036	Ceramic Filter 10.7MHz	1
CF103	620 014 5862	Ceramic Filter 450KHz	1
CF105	620 014 6319	Ceramic OSC CSB456F11	1
CN101	620 018 1686	Socket Jumper 8P	1
CN102	620 017 5029	Socket Jumper 9P	1
CN103	620 018 1709	Socket Jumper 11P	1
CN104	620 018 1693	Socket Jumper 10P	1
CN105	620 018 1686	Socket Jumper 8P	1
CN106	620 189 5551	Socket Jumper 7P	1
CN107	620 021 6555	Plug 4P	1
CN108	620 021 6548	Plug 2P	1
CX101	620 007 1338	Crystal 7.2MHz	1
or	620 007 1314	Crystal 7.2MHz	1
FU101 ⚠	423 007 4404	FUSE 250V T5A	1
FU102 ⚠	423 007 4404	FUSE 250V T5A	1
FU103 ⚠	423 005 0507	FUSE 250V T1A	1
FU104 ⚠	423 005 0507	FUSE 250V T1A	1
F101	620 026 9353	FTZ Antenna Filter	1
L101	620 027 1240	AF Coil	1
L102	620 027 1240	AF Coil	1
RA101	620 004 5087	Resistor 3X10K J	1
TC101	620 006 9724	Trimmer Condenser	1
TC102	620 007 0614	Trimmer 20PF	1
T101	620 028 1348	MW Antenna Coil	1
or	620 185 9041	MW Antenna Coil	1
T102	620 188 9963	FM DET Coil	1
or	620 190 3652	FM DET Coil	1
T103	620 188 9970	FM DET Coil	1
or	620 190 3669	FM DET Coil	1
T104	620 190 3676	OSC Coil MW	1
or	620 185 9058	OSC Coil MW	1
T105	620 027 7006	IFT AM	1
or	620 186 0528	IFT AM	1
T106	620 028 1362	LW Antenna Coil	1
T107	620 028 7821	OSC Coil LW	1
T108	620 026 4402	Anti Birdie Filter	1
VR101	620 006 1353	Potentiometer (B-100kΩ)	1
or	620 006 1933	Potentiometer (B-100kΩ)	1
VR102	620 006 1377	Potentiometer (B-10kΩ)	1
or	620 006 1940	Potentiometer (B-10kΩ)	1
VR103	620 006 1353	Potentiometer (B-100kΩ)	1
or	620 006 1933	Potentiometer (B-100kΩ)	1
VR104	620 006 1315	Semi Fixed (B-100Ω)	1
VR105	620 006 1315	Semi Fixed (B-100Ω)	1
W102	620 189 5957	Wire 2 Parallel	1
W103	620 189 5964	Wire 2 Parallel	1
W112	620 024 2608	Wire 4 Parallel	1
W113	620 024 2608	Wire 4 Parallel	1
IC101	409 073 9505	IC LA1266	1
IC102	409 017 1008	IC LA3401	1
IC103	409 025 7306	IC LM7000	1
IC104	409 018 5401	IC LA6462S	1
IC105	409 018 5104	IC LA6458SS	1
Q101	405 027 0604	TR 2SK246-Y	1
Q102	405 020 1103	TR 2SC930-D-NP	1
or	405 020 1905	TR 2SC930-E-NP	1
Q103	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q104	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q105	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q106	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q107	405 003 7702	TR 2SA1346	1
Q108	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q109	405 003 7702	TR 2SA1346	1
Q110	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q111	405 027 8402	TR 2SK583	1
Q112	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q113	405 021 0808	TR 2SD1012-H	1
Q114	405 021 0808	TR 2SD1012-H	1
Q115	405 016 9007	TR 2SC3066-G	1
Q116	405 016 9007	TR 2SC3066-G	1
Q117	405 002 9202	TR 2SA1209-T	1
or	405 002 9103	TR 2SA1209-S	1
Q118	405 002 9202	TR 2SA1209-T	1
or	405 002 9103	TR 2SA1209-S	1
Q119	405 016 4002	TR 2SC2911-T	1
or	405 016 3906	TR 2SC2911-S	1
Q120	405 016 4002	TR 2SC2911-T	1
or	405 016 3906	TR 2SC2911-S	1
Q121	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q122	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q123	405 004 4502	TR 2SA608-F-NP	1
or	405 004 5004	TR 2SA608-G-NP	1
Q124	405 004 4502	TR 2SA608-F-NP	1
or	405 004 5004	TR 2SA608-G-NP	1
Q125	405 017 2601	TR 2SC3117-S	1
or	405 017 2502	TR 2SC3117-R	1
Q126	405 017 2601	TR 2SC3117-S	1
or	405 017 2502	TR 2SC3117-R	1
Q127	405 003 1601	TR 2SA1249-S	1
or	405 003 1502	TR 2SA1249-R	1
Q128	405 003 1601	TR 2SA1249-S	1
or	405 003 1502	TR 2SA1249-R	1
Q129	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q130	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q131	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q132	405 004 4502	TR 2SA608-F-NP	1
or	405 004 5004	TR 2SA608-G-NP	1
Q133	405 023 8208	TR 2SD438-D-MP	1
or	405 023 8307	TR 2SD438-E-MP	1
or	405 023 8505	TR 2SD438-F-MP	1
Q134	405 007 4905	TR 2SB560-D-MP	1
or	405 007 5100	TR 2SB560-E-MP	1
or	405 007 5308	TR 2SB560-F-MP	1
Q135	405 022 5000	TR 2SD1406-Y	1
Q136	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q137	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q138	405 004 4502	TR 2SA608-F-NP	1
or	405 004 5004	TR 2SA608-G-NP	1
Q701	405 021 0501	TR 2SD1012-G	1
Q702	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q703	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q704	405 021 0501	TR 2SD1012-G	1
Q705	405 021 0501	TR 2SD1012-G	1
Q706	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q707	405 003 7702	TR 2SA1346	1
Q708	405 023 2008	TR 2SD325-D	1
or	405 023 2305	TR 2SD325-E	1
Q709	405 021 0808	TR 2SD1012-H	1
Q710	405 027 8402	TR 2SK583	1
If necessary, replace both Diode D101, D102 (SVC321) together with new ones which have the equivalent characteristics.			
D101	407 000 4708	VARACTOR DI SVC321C-2	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
or	407 000 4807	VARACTOR DI SVC321D-2	1
D102	407 000 4708	VARACTOR DI SVC321C-2	1
or	407 000 4807	VARACTOR DI SVC321D-2	1
D103	407 050 7209	ZENER DIODE GZA8.2X	1
or	407 050 7308	ZENER DIODE GZA8.2Y	1
D104	407 008 0405	DIODE GMB01-BT	1
D105	407 008 0405	DIODE GMB01-BT	1
D106	407 050 4802	ZENER DIODE GZA5.1Y	1
D107	407 049 7708	ZENER DIODE GZA18X-BT	1
D107	407 049 7807	ZENER DIODE GZA18Y-BT	1
D109	407 005 3805	DIODE DS442-BT	1
D110	407 008 0405	DIODE GMB01-BT	1
D111	407 005 3805	DIODE DS442-BT	1
D112	407 008 0405	DIODE GMB01-BT	1
D113	407 008 0405	DIODE GMB01-BT	1
D114	407 008 0405	DIODE GMB01-BT	1
D115	407 008 0405	DIODE GMB01-BT	1
D116	407 008 0405	DIODE GMB01-BT	1
D117	407 008 0405	DIODE GMB01-BT	1
D118	407 008 0405	DIODE GMB01-BT	1
D119	407 005 4703	DIODE DS446-BT	1
D120	407 005 4703	DIODE DS446-BT	1
D121	407 005 4703	DIODE DS446-BT	1
D122	407 005 4703	DIODE DS446-BT	1
D123	407 012 0309	DIODE 1N4003	1
or	407 005 1306	DIODE DS135C	1
D124	407 050 1405	ZENER DIODE GZA3.6Z	1
D125	407 050 1405	ZENER DIODE GZA3.6Z	1
D126	407 008 0405	DIODE GMB01-BT	1
D127	407 008 0405	DIODE GMB01-BT	1
D128	407 049 6503	ZENER DIODE GZA13X-BT	1
or	407 049 6602	ZENER DIODE GZA13Y-BT	1
D129	407 049 7708	ZENER DIODE GZA18X-BT	1
or	407 049 7807	ZENER DIODE GZA18Y-BT	1
D130	407 049 7708	ZENER DIODE GZA18X-BT	1
or	407 049 7807	ZENER DIODE GZA18Y-BT	1
D131	407 008 0405	DIODE GMB01-BT	1
D132	407 008 0405	DIODE GMB01-BT	1
D133	407 008 0405	DIODE GMB01-BT	1
D134	407 005 3805	DIODE DS442-BT	1
D136	407 008 0405	DIODE GMB01-BT	1
D137	407 050 5502	ZENER DIODE GZA5.6Y-BT	1
D138	407 109 4708	DIODE 1N4003-K	1
or	407 005 1306	DIODE DS135C	1
D139	407 109 4708	DIODE 1N4003-K	1
or	407 005 1306	DIODE DS135C	1
D140	407 109 4708	DIODE 1N4003-K	1
or	407 005 1306	DIODE DS135C	1
D141	407 109 4708	DIODE 1N4003-K	1
or	407 005 1306	DIODE DS135C	1
D142	407 088 3105	DIODE DSC30TC-KD2	1
D143	407 088 3105	DIODE DSC30TC-KD2	1
D144	407 088 3105	DIODE DSC30TC-KD2	1
D145	407 088 3105	DIODE DSC30TC-KD2	1
D146	407 050 2105	ZENER DIODE GZA30X-BT	1
or	407 050 2204	ZENER DIODE GZA30Y-BT	1
or	407 050 2303	ZENER DIODE GZA30Z-BT	1
D147	407 050 6103	ZENER DIODE GZA6.2X-BT	1
or	407 050 6202	ZENER DIODE GZA6.2Y-BT	1
or	407 050 6301	ZENER DIODE GZA6.2Z-BT	1
D148	407 008 0405	DIODE GMB01-BT	1
D149	407 005 3805	DIODE DS442-BT	1
D701	407 008 0405	DIODE GMB01-BT	1
D702	407 008 0405	DIODE GMB01-BT	1
D703	407 049 6503	ZENER DIODE GZA13X-BT	1
C101	403 004 0500	CERAMIC 0.047U K 25V	1
C102	403 026 5408	CERAMIC 47P K 50V	1
C103	403 062 0900	POLYESTER 0.047U K 50V	1
C104	403 004 0500	CERAMIC 0.047U K 25V	1
C105	403 004 0500	CERAMIC 0.047U K 25V	1
C106	403 072 2703	CERAMIC 0.022U Z 50V	1
C107	403 069 8404	CERAMIC 0.01U Z 50V	1
C108	403 072 2703	CERAMIC 0.022U Z 50V	1
C109	403 072 2703	CERAMIC 0.022U Z 50V	1
C110	403 049 1609	ELECT 1U M 50V	1
C111	403 044 0201	ELECT 47U M 16V	1
C112	403 069 8404	CERAMIC 0.01U Z 50V	1
C113	403 072 2703	CERAMIC 0.022U Z 50V	1
C114	403 024 8203	CERAMIC 390P K 50V	1
C115	403 039 2906	ELECT 47U M 6.3V	1
C116	403 039 7802	ELECT 100U M 10V	1
C117	403 069 8404	CERAMIC 0.01U Z 50V	1
C118	403 088 4104	STYRENE 430P J 50V	1
C119	403 013 6104	CERAMIC 16P J 50V	1
C120	403 026 5408	CERAMIC 47P K 50V	1
C121	403 047 1502	ELECT 4.7U M 25V	1
C122	403 050 7706	ELECT 3.3U M 50V	1
C123	403 057 0908	POLYESTER 0.01U K 50V	1
C124	403 047 1502	ELECT 4.7U M 25V	1
C125	403 057 0908	POLYESTER 0.01U K 50V	1
C126	403 060 8700	POLYESTER 0.033U K 50V	1
C127	403 075 0508	CERAMIC 6800P K 50V	1
C128	403 069 0705	CERAMIC 1000P K 50V	1
C129	403 042 0302	ELECT 10U M 16V	1
C130	403 024 8203	CERAMIC 390P K 50V	1
C131	403 024 8203	CERAMIC 390P K 50V	1
C132	403 049 1609	ELECT 1U M 50V	1
C133	403 049 1609	ELECT 1U M 50V	1
C134	403 061 2608	POLYESTER 3900P K 50V	1
C135	403 061 2608	POLYESTER 3900P K 50V	1
C136	403 042 0302	ELECT 10U M 16V	1
C137	403 062 0900	POLYESTER 0.047U K 50V	1
C138	403 042 0302	ELECT 10U M 16V	1
C139	403 048 7602	ELECT 0.47U M 50V	1
C140	403 049 1609	ELECT 1U M 50V	1
C141	403 050 1308	ELECT 2.2U M 50V	1
C142	403 069 8404	CERAMIC 0.01U Z 50V	1
C143	403 022 5907	CERAMIC 33P J 50V	1
C144	403 022 5907	CERAMIC 33P J 50V	1
C145	403 069 1504	CERAMIC 1000P K 50V	1
C146	403 069 0705	CERAMIC 1000P K 50V	1
C147	403 069 0705	CERAMIC 1000P K 50V	1
C148	403 050 1209	ELECT 2.2U M 50V	1
C149	403 062 0900	POLYESTER 0.047U K 50V	1
C150	403 069 0705	CERAMIC 1000P K 50V	1
C151	403 042 0302	ELECT 10U M 16V	1
C153	403 049 1609	ELECT 1U M 50V	1
C154	403 049 1609	ELECT 1U M 50V	1
C155	403 018 8509	CERAMIC 220P K 50V	1
C156	403 018 8509	CERAMIC 220P K 50V	1
C157	403 009 8105	CERAMIC 100P K 50V	1
C158	403 009 8105	CERAMIC 100P K 50V	1
C159	403 041 3304	ELECT 47U M 10V	1
C160	403 041 3304	ELECT 47U M 10V	1
C163	403 009 8105	CERAMIC 100P K 50V	1
C164	403 009 8105	CERAMIC 100P K 50V	1
C165	403 049 1609	ELECT 1U M 50V	1
C166	403 049 1609	ELECT 1U M 50V	1
C167	403 009 8105	CERAMIC 100P K 50V	1
C168	403 009 8105	CERAMIC 100P K 50V	1
C169	403 009 8105	CERAMIC 100P K 50V	1
C170	403 009 8105	CERAMIC 100P K 50V	1
C171	403 136 1604	ELECT 47U M 100V	1
C172	403 136 1604	ELECT 47U M 100V	1
C173	403 072 9603	CERAMIC 3300P K 50V	1
C174	403 072 9603	CERAMIC 3300P K 50V	1
C175	403 035 2207	CERAMIC 15P K 500V	1
C176	403 035 2207	CERAMIC 15P K 500V	1
C177	403 041 3304	ELECT 47U M 10V	1
C178	403 041 3304	ELECT 47U M 10V	1
C179	403 035 2207	CERAMIC 15P K 500V	1
C180	403 035 2207	CERAMIC 15P K 500V	1
C181	403 047 4206	ELECT 47U M 25V	1
C247	403 136 1604	ELECT 47U M 100V	1
C248	403 136 1604	ELECT 47U M 100V	1
C249	403 057 7204	POLYESTER 0.012U J 50V	1
C250	403 057 7204	POLYESTER 0.012U J 50V	1
C251	403 057 7204	POLYESTER 0.012U J 50V	1
C252	403 057 7204	POLYESTER 0.012U J 50V	1
C253	403 075 9501	CERAMIC 180P K 500V	1
C254	403 075 9501	CERAMIC 180P K 500V	1
C257	403 075 9501	CERAMIC 180P K 500V	1
C258	403 075 9501	CERAMIC 180P K 500V	1
C259	403 159 8703	POLYPRO 0.047U J 100V	1
C260	403 159 8703	POLYPRO 0.047U J 100V	1
C261	403 069 8404	CERAMIC 0.01U Z 50V	1
C262	403 069 8404	CERAMIC 0.01U Z 50V	1
C263	403 049 1609	ELECT 1U M 50V	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
C264	403 049 1609	ELECT 1U M 50V	1
C265	403 038 2402	ELECT 100U M 6.3V	1
C266	403 042 0302	ELECT 10U M 16V	1
C267	403 044 8207	ELECT 10U M 25V	1
C268	403 044 8207	ELECT 10U M 25V	1
C269	403 045 0606	ELECT 100U M 25V	1
C270	403 039 7802	ELECT 100U M 10V	1
C271	403 042 0302	ELECT 10U M 16V	1
C272	403 049 1609	ELECT 1U M 50V	1
C273	403 039 4504	ELECT 470U M 6.3V	1
C274	403 052 8107	ELECT 100U M 35V	1
C275	403 052 9609	ELECT 1000U M 35V	1
C276	403 052 9609	ELECT 1000U M 35V	1
C277	404 041 0201	ELECT 6800U M 63V	1
C278	404 041 0201	ELECT 6800U M 63V	1
C279	404 012 7000	CERAMIC 0.01U P 500V	1
C280	404 012 7000	CERAMIC 0.01U P 500V	1
C281	404 012 7000	CERAMIC 0.01U P 500V	1
C282	404 012 7000	CERAMIC 0.01U P 500V	1
C283	404 012 7000	CERAMIC 0.01U P 500V	1
C284	404 012 7000	CERAMIC 0.01U P 500V	1
C285	404 012 7000	CERAMIC 0.01U P 500V	1
C286	404 012 7000	CERAMIC 0.01U P 500V	1
C287	403 040 4807	ELECT 220U M 10V	1
C288	403 049 1609	ELECT 1U M 50V	1
C289	403 049 1609	ELECT 1U M 50V	1
C290	403 045 7100	ELECT 22U M 25V	1
C291	403 015 1602	CERAMIC 2P C 50V	1
C292	403 015 1602	CERAMIC 2P C 50V	1
C293	403 049 1609	ELECT 1U M 50V	1
C702	403 069 8404	CERAMIC 0.01U Z 50V	1
C703	403 050 1209	ELECT 2.2U M 50V	1
C704	403 029 0509	CERAMIC 560P K 50V	1
C705	403 033 9406	CERAMIC 820P K 50V	1
C706	403 028 8001	CERAMIC 56P K 50V	1
C707	403 004 0500	CERAMIC 0.047U K 25V	1
C708	403 022 6003	CERAMIC 33P J 50V	1
C709	403 088 1103	STYRENE 330P J 50V	1
C711	403 044 8207	ELECT 10U M 25V	1
C712	403 049 1609	ELECT 1U M 50V	1
C713	403 049 1609	ELECT 1U M 50V	1
C714	403 042 3501	ELECT 100U M 16V	1
C715	403 004 0500	CERAMIC 0.047U K 25V	1
C716	403 004 0500	CERAMIC 0.047U K 25V	1
C717	403 004 0500	CERAMIC 0.047U K 25V	1
C718	403 009 8105	CERAMIC 100P K 50V	1
C719	403 009 8105	CERAMIC 100P K 50V	1
C720	403 009 8105	CERAMIC 100P K 50V	1
C721	403 009 8105	CERAMIC 100P K 50V	1
C722	403 047 4206	ELECT 47U M 25V	1
C723	403 047 4206	ELECT 47U M 25V	1
C724	403 069 8404	CERAMIC 0.01U Z 50V	1
R102	401 024 7707	CARBON 100K JA 1/6W	1
R103	401 024 7004	CARBON 1K JA 1/6W	1
R104	401 024 8001	CARBON 1M JA 1/6W	1
R105	401 026 1000	CARBON 2.7K JA 1/6W	1
R106	401 026 6609	CARBON 390 JA 1/6W	1
R107	401 024 7004	CARBON 1K JA 1/6W	1
R108	401 012 4503	CARBON 100 JA 1/4W	1
R109	401 025 7805	CARBON 2.2K JA 1/6W	1
R110	401 026 6609	CARBON 390 JA 1/6W	1
R111	401 026 6609	CARBON 390 JA 1/6W	1
R112	401 027 8305	CARBON 820 JA 1/6W	1
R113	401 025 8208	CARBON 22K JA 1/6W	1
R114	401 027 5502	CARBON 6.8K JA 1/6W	1
R115	401 026 1000	CARBON 2.7K JA 1/6W	1
R116	401 026 9907	CARBON 4.7K JA 1/6W	1
R117	401 026 9907	CARBON 4.7K JA 1/6W	1
R118	401 025 8208	CARBON 22K JA 1/6W	1
R119	401 026 4308	CARBON 3.3K JA 1/6W	1
R120	401 024 7707	CARBON 100K JA 1/6W	1
R121	401 027 5502	CARBON 6.8K JA 1/6W	1
R122	401 025 0004	CARBON 120K JA 1/6W	1
R123	401 025 7805	CARBON 2.2K JA 1/6W	1
R124	401 024 7707	CARBON 100K JA 1/6W	1
R125	401 025 0004	CARBON 120K JA 1/6W	1
R126	401 025 7805	CARBON 2.2K JA 1/6W	1
R127	401 024 7707	CARBON 100K JA 1/6W	1
R128	401 026 4308	CARBON 3.3K JA 1/6W	1
R129	401 026 4308	CARBON 3.3K JA 1/6W	1
R130	401 024 7400	CARBON 10K JA 1/6W	1
R131	401 026 4308	CARBON 3.3K JA 1/6W	1
R132	401 024 7400	CARBON 10K JA 1/6W	1
R133	401 024 7707	CARBON 100K JA 1/6W	1
R134	401 016 3809	CARBON 2.2K JA 1/4W	1
R135	401 024 7400	CARBON 10K JA 1/6W	1
R136	401 024 7400	CARBON 10K JA 1/6W	1
R137	401 026 4308	CARBON 3.3K JA 1/6W	1
R138	401 016 1508	CARBON 22 JA 1/4W	1
R139	401 024 7400	CARBON 10K JA 1/6W	1
R140	401 025 8208	CARBON 22K JA 1/6W	1
R141	401 016 4806	CARBON 22K JA 1/4W	1
R142	401 024 7400	CARBON 10K JA 1/6W	1
R143	401 024 7004	CARBON 1K JA 1/6W	1
R144	401 025 7805	CARBON 2.2K JA 1/6W	1
R145	401 026 4308	CARBON 3.3K JA 1/6W	1
R146	401 026 4308	CARBON 3.3K JA 1/6W	1
R148	401 025 7805	CARBON 2.2K JA 1/6W	1
R149	401 024 7004	CARBON 1K JA 1/6W	1
R150	401 024 7004	CARBON 1K JA 1/6W	1
R151	401 025 8208	CARBON 22K JA 1/6W	1
R152	401 025 8208	CARBON 22K JA 1/6W	1
R153	401 027 5908	CARBON 68K JA 1/6W	1
R154	401 027 5908	CARBON 68K JA 1/6W	1
R155	401 025 4606	CARBON 18K JA 1/6W	1
R156	401 025 4606	CARBON 18K JA 1/6W	1
R157	401 025 6204	CARBON 2K JA 1/6W	1
R158	401 025 6204	CARBON 2K JA 1/6W	1
R161	401 024 7004	CARBON 1K JA 1/6W	1
R162	401 024 7004	CARBON 1K JA 1/6W	1
R163	401 027 5908	CARBON 68K JA 1/6W	1
R164	401 027 5908	CARBON 68K JA 1/6W	1
R165	401 016 3809	CARBON 2.2K JA 1/4W	1
R166	401 016 3809	CARBON 2.2K JA 1/4W	1
R167	401 016 3809	CARBON 2.2K JA 1/4W	1
R168	401 016 3809	CARBON 2.2K JA 1/4W	1
R171	401 014 5201	CARBON 15K JA 1/4W	1
R172	401 025 1902	CARBON 15K JA 1/6W	1
R173	401 027 5908	CARBON 68K JA 1/6W	1
R174	401 027 5908	CARBON 68K JA 1/6W	1
R175	401 026 1000	CARBON 2.7K JA 1/6W	1
R176	401 026 1000	CARBON 2.7K JA 1/6W	1
R177	402 035 9902	FUSIBLE RES 82 J- 1/4W	1
R178	402 035 9902	FUSIBLE RES 82 J- 1/4W	1
R179	401 018 4903	CARBON 33K JA 1/4W	1
R180	401 026 4605	CARBON 33K JA 1/6W	1
R181	402 035 9902	FUSIBLE RES 82 J- 1/4W	1
R182	402 035 9902	FUSIBLE RES 82 J- 1/4W	1
R183	402 041 3901	FUSIBLE RES 33 J- 1/4W	1
R184	402 041 3901	FUSIBLE RES 33 J- 1/4W	1
R185	402 036 0205	FUSIBLE RES 2.2 J- 1/4W	1
R186	402 036 0205	FUSIBLE RES 2.2 J- 1/4W	1
R187	401 026 6609	CARBON 390 JA 1/6W	1
R188	401 026 6609	CARBON 390 JA 1/6W	1
R189	401 026 6609	CARBON 390 JA 1/6W	1
R190	401 026 6609	CARBON 390 JA 1/6W	1
R191	402 036 0205	FUSIBLE RES 2.2 J- 1/4W	1
R192	402 036 0205	FUSIBLE RES 2.2 J- 1/4W	1
R193	402 041 3901	FUSIBLE RES 33 J- 1/4W	1
R194	402 041 3901	FUSIBLE RES 33 J- 1/4W	1
R195	402 041 4007	FUSIBLE RES 330 J- 1/4W	1
R196	402 041 4007	FUSIBLE RES 330 J- 1/4W	1
R197	401 018 2800	CARBON 330 JA 1/4W	1
R198	401 018 2800	CARBON 330 JA 1/4W	1
R199	401 101 5107	OXIDE-MT 15K JB 1W	1
R200	401 101 5107	OXIDE-MT 15K JB 1W	1
R201	401 018 2800	CARBON 330 JA 1/4W	1
R202	401 018 2800	CARBON 330 JA 1/4W	1
R203	402 040 7306	WIRE WOUND 0.3 KA 5W	1
R204	402 040 7306	WIRE WOUND 0.3 KA 5W	1
R205	402 040 7306	WIRE WOUND 0.3 KA 5W	1
R206	402 040 7306	WIRE WOUND 0.3 KA 5W	1
R207	401 064 6203	OXIDE-MT 10 JB 2W	1
R208	401 064 6203	OXIDE-MT 10 JB 2W	1
R209	401 012 3407	CARBON 10 JA 1/4W	1
R210	401 012 3407	CARBON 10 JA 1/4W	1
R211	401 016 2208	CARBON 220 JA 1/4W	1
R212	401 016 2208	CARBON 220 JA 1/4W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
R213	401 012 8105	CARBON 100K JA 1/4W	1
R214	401 024 7400	CARBON 10K JA 1/6W	1
R215	401 014 2903	CARBON 150 JA 1/4W	1
R216	401 027 0309	CARBON 47K JA 1/6W	1
R217	401 026 4308	CARBON 3.3K JA 1/6W	1
R218	401 026 7002	CARBON 3.9K JA 1/6W	1
R219	401 026 7408	CARBON 39K JA 1/6W	1
R220	401 026 7408	CARBON 39K JA 1/6W	1
R221	401 024 7400	CARBON 10K JA 1/6W	1
R222	401 024 7400	CARBON 10K JA 1/6W	1
R223	401 027 2303	CARBON 560 JA 1/6W	1
R224	401 027 2303	CARBON 560 JA 1/6W	1
R225	401 026 1307	CARBON 27K JA 1/6W	1
R226	401 026 1307	CARBON 27K JA 1/6W	1
R227	401 024 6700	CARBON 100 JA 1/6W	1
R228	401 024 6700	CARBON 100 JA 1/6W	1
R229	401 027 0309	CARBON 47K JA 1/6W	1
R230	401 027 0309	CARBON 47K JA 1/6W	1
R231	401 059 2906	OXIDE-MT 150 JB 1W	1
R232	401 012 5708	CARBON 1K JA 1/4W	1
R233	401 058 2600	OXIDE-MT 100 JB 1W	1
R234	401 020 0801	CARBON 470 JA 1/4W	1
R235	401 065 9500	OXIDE-MT 18 JB 2W	1
R236	401 021 1906	CARBON 560 JA 1/4W	1
R237	401 020 0801	CARBON 470 JA 1/4W	1
R238	401 019 9600	CARBON 47 JA 1/4W	1
R239	401 026 4605	CARBON 33K JA 1/6W	1
R240	401 027 0309	CARBON 47K JA 1/6W	1
R241	401 025 7805	CARBON 2.2K JA 1/6W	1
R242	401 024 7400	CARBON 10K JA 1/6W	1
R243	401 063 5405	OXIDE-MT 82 JB 1W	1
R244	401 093 5000	OXIDE-MT 2.2K JB 2W	1
R245	401 105 9101	OXIDE-MT 5.6K JB 1W	1
R247	401 060 8607	OXIDE-MT 2.7K JB 1W	1
R248	401 024 7707	CARBON 100K JA 1/6W	1
R253	401 060 7501	OXIDE-MT 270 JB 1W	1
R254	401 062 5208	OXIDE-MT 56 JB 1W	1
R256	401 093 5000	OXIDE-MT 2.2K JB 2W	1
R257	401 025 8208	CARBON 22K JA 1/6W	1
R258	401 012 7009	CARBON 10K JA 1/4W	1
R259	401 021 1906	CARBON 560 JA 1/4W	1
R260	401 024 7004	CARBON 1K JA 1/6W	1
R701	401 025 7805	CARBON 2.2K JA 1/6W	1
R702	401 024 7004	CARBON 1K JA 1/6W	1
R703	401 025 8208	CARBON 22K JA 1/6W	1
R704	401 025 8208	CARBON 22K JA 1/6W	1
R705	401 025 7805	CARBON 2.2K JA 1/6W	1
R706	401 024 7707	CARBON 100K JA 1/6W	1
R707	401 025 8208	CARBON 22K JA 1/6W	1
R708	401 024 7707	CARBON 100K JA 1/6W	1
R709	401 025 8208	CARBON 22K JA 1/6W	1
R710	401 024 7707	CARBON 100K JA 1/6W	1
R711	401 025 8208	CARBON 22K JA 1/6W	1
R712	401 024 7004	CARBON 1K JA 1/6W	1
R713	401 024 9305	CARBON 1.2K JA 1/6W	1
R714	401 025 0004	CARBON 120K JA 1/6W	1
R715	401 024 7707	CARBON 100K JA 1/6W	1
R716	401 027 9005	CARBON 82K JA 1/6W	1
R717	401 027 0309	CARBON 47K JA 1/6W	1
R718	401 026 4308	CARBON 3.3K JA 1/6W	1
R719	401 024 7004	CARBON 1K JA 1/6W	1
R720	401 024 7004	CARBON 1K JA 1/6W	1
R721	401 024 7400	CARBON 10K JA 1/6W	1
R722	401 026 9907	CARBON 4.7K JA 1/6W	1
R723	401 016 1508	CARBON 22 JA 1/4W	1
R724	401 016 1508	CARBON 22 JA 1/4W	1
R725	402 015 6402	FUSIBLE RES 2.2 J- 1/4W	1
R726	402 015 6402	FUSIBLE RES 2.2 J- 1/4W	1
R727	402 015 6402	FUSIBLE RES 2.2 J- 1/4W	1
R728	402 015 6402	FUSIBLE RES 2.2 J- 1/4W	1
	AC SWITCH P.C.B. ASSY		
S2	620 191 4627	AC Switch P.C.B. Assy	1
	⚠ 620 015 2341	Switch Push Power	1
	620 185 1946	Jack 3P	1
	620 031 4763	Wire Wrap Terminal	2
	620 053 6905	Cover Safety	1
C501	⚠ 620 006 6716	Capacitor 1000P 400V	1
S501	620 188 8393	Push 1KEY	1

Ref. No.	Part No.	Description	Q'ty
S502	620 188 8393	Push 1KEY	1
W501	620 024 3049	Wire 4 Parallel	1
W502	620 024 1366	Wire 6 Parallel	1
R501	401 069 2705	OXIDE-MT 680 JB 2W	1
R502	401 069 2705	OXIDE-MT 680 JB 2W	1
R503	401 017 0807	CARBON 270 JA 1/4W	1
R504	401 017 0807	CARBON 270 JA 1/4W	1
R505	401 017 0807	CARBON 270 JA 1/4W	1
R506	401 017 0807	CARBON 270 JA 1/4W	1
	SUB TRANS P.C.B. ASSY		
53	620 191 5501	Sub Trans P.C.B. Assy	1
	620 017 0406	Relay	1
	620 017 2738	Fuse Clip	2
	⚠ 620 191 2692	Power Trans	1
	⚠ 423 006 4702	FUSE 250V T2.5A	1
	620 031 4763	Wire Wrap Terminal	6
	620 053 0767	Cover Sever	2
	620 053 7025	Cover Safety	1
	620 054 8175	Label	1
C601	⚠ 620 006 6679	Capacitor 0.01MF400V	1
Q601	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
D601	407 109 4708	DIODE 1N4003-K	1
or	407 005 1306	DIODE DS135C	1
D602	407 003 5504	DIODE DBA10C	1
C602	403 045 2907	ELECT 1000U M 25V	1
C603	403 069 8404	CERAMIC 0.01U Z 50V	1
C604	403 069 8404	CERAMIC 0.01U Z 50V	1
C605	403 069 8404	CERAMIC 0.01U Z 50V	1
C606	403 069 8404	CERAMIC 0.01U Z 50V	1
R601	401 024 7707	CARBON 100K JA 1/6W	1
R602	401 026 4308	CARBON 3.3K JA 1/6W	1
	BIAS LEFT P.C.B. ASSY		
54	620 191 5518	Bias Left P.C.B. Assy	1
Q801	405 026 0803	TR 2SD947	1
D801	407 005 3805	DIODE DS442-BT	1
	LAMP P.C.B. ASSY		
55	620 191 5525	Lamp P.C.B. Assy	1
	620 052 0171	Spacer	2
LP101	620 030 8137	Lamp	1
LP102	620 030 8137	Lamp	1
	ANTENNA P.C.B. ASSY		
56	620 191 5532	Antenna P.C.B. Assy	1
	620 022 2921	ANT Terminal 3P	1
L810	620 026 5522	Choke Coil 470UH	1
R810	401 018 3807	CARBON 3.3K JA 1/4W	1
	SPEAKER TERMINAL P.C.B. ASSY		
57	620 191 5549	Speaker Terminal P.C.B. Assy	1
	620 022 2587	EC Terminal 1P	2
	620 191 4375	SP Terminal 8P	1
	620 031 4763	Wire Wrap Terminal	2
C511	403 018 8509	CERAMIC 220P K 50V	1
C512	403 018 8509	CERAMIC 220P K 50V	1
C513	403 074 2701	CERAMIC 0.047U Z 50V	1
C514	403 018 8509	CERAMIC 220P K 50V	1
C515	403 074 2701	CERAMIC 0.047U Z 50V	1
C516	403 018 8509	CERAMIC 220P K 50V	1
	TRANS TERMINAL P.C.B. ASSY		
58	620 191 5556	Trans Terminal P.C.B. Assy	1
	620 017 2738	Fuse Clip	4
	⚠ 423 005 0507	FUSE 250V T1A	2
R251	401 062 5208	OXIDE-MT 56 JB 1W	1
R252	401 062 5208	OXIDE-MT 56 JB 1W	1
	CONTROL P.C.B. ASSY		
59	620 191 6096	Control P.C.B. Assy	1
	411 023 3006	SCR S-TPG PAN 2.6X6	4
	620 185 3582	Spacer FL.	1
	620 123 7658	Sheet	4
CX401	620 026 9070	CSA 4.19M Resonator	1
FL401	620 182 6609	Digitron BG-562GK	1
RA401	620 188 9857	Resistor 6X82K	1
RA402	620 004 5544	Resistor 10K-5	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description	Q'ty
RA403	620 004 5513	Resistor 10K-7	1
RA404	620 004 5599	Resistor 5X2.2K J	1
SW401	620 016 7796	Tact Switch	1
SW402	620 016 7796	Tact Switch	1
SW403	620 016 7796	Tact Switch	1
SW404	620 016 7796	Tact Switch	1
SW405	620 016 7796	Tact Switch	1
SW406	620 016 7796	Tact Switch	1
SW407	620 016 7796	Tact Switch	1
SW408	620 016 7796	Tact Switch	1
SW409	620 016 7796	Tact Switch	1
SW410	620 016 7796	Tact Switch	1
SW411	620 016 7796	Tact Switch	1
SW412	620 016 7796	Tact Switch	1
SW413	620 016 7796	Tact Switch	1
SW414	620 016 7796	Tact Switch	1
SW415	620 016 7796	Tact Switch	1
SW416	620 016 7796	Tact Switch	1
SW417	620 016 7796	Tact Switch	1
SW418	620 016 7796	Tact Switch	1
SW419	620 016 7796	Tact Switch	1
SW420	620 016 7796	Tact Switch	1
SW421	620 016 7796	Tact Switch	1
SW422	620 016 7796	Tact Switch	1
IC401	410 062 5705	IC TMP47C870N-4627	1
Q401	405 004 4601	TR 2SA608-F-SPA-AC	1
or	405 004 5103	TR 2SA608-G-SPA-AC	1
Q402	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
Q403	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
Q404	405 004 4601	TR 2SA608-F-SPA-AC	1
or	405 004 5103	TR 2SA608-G-SPA-AC	1
Q405	405 019 3903	TR 2SC536-G-SPA-AC	1
Q406	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
Q407	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
Q408	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
Q409	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
Q410	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
Q411	405 019 2807	TR 2SC536-F-SPA-AC	1
or	405 019 3903	TR 2SC536-G-SPA-AC	1
D401	407 005 3805	DIODE DS442-BT	1
D402	407 005 3805	DIODE DS442-BT	1
D403	407 005 3805	DIODE DS442-BT	1
D404	407 005 3805	DIODE DS442-BT	1
D405	407 005 3805	DIODE DS442-BT	1
D406	407 005 3805	DIODE DS442-BT	1
D407	407 005 3805	DIODE DS442-BT	1
D408	407 008 0405	DIODE GMB01-BT	1
D409	407 005 3805	DIODE DS442-BT	1
D410	407 005 3805	DIODE DS442-BT	1
D411	407 005 3805	DIODE DS442-BT	1
RC401	407 088 6601	SENSOR BX-1407	1
	403 049 1609	ELECT 1U M 50V	1
C401	403 023 1601	CERAMIC 33P K 50V	1
C402	403 023 1601	CERAMIC 33P K 50V	1
C403	403 038 2402	ELECT 100U M 6.3V	1
C405	404 039 4402	ELECT 100U M 10V	1
or	404 032 5802	ELECT 100U M 10V	1
C406	404 039 4303	ELECT 2200U M 10V	1
or	404 032 2207	ELECT 2200U M 10V	1
C407	403 047 1601	ELECT 4.7U M 25V	1
C408	403 049 1609	ELECT 1U M 50V	1
C410	404 037 1304	CERAMIC 1U Z 50V	1
C411	404 037 1304	CERAMIC 1U Z 50V	1
C412	404 037 1304	CERAMIC 1U Z 50V	1
C413	403 047 4206	ELECT 47U M 25V	1
C414	403 010 1805	CERAMIC 1000P K 50V	1
R401	401 024 6700	CARBON 100 JA 1/6W	1
R402	401 024 6700	CARBON 100 JA 1/6W	1
R403	401 024 6700	CARBON 100 JA 1/6W	1
R404	401 024 6700	CARBON 100 JA 1/6W	1
R405	401 024 6700	CARBON 100 JA 1/6W	1
R406	401 024 6700	CARBON 100 JA 1/6W	1

Ref. No.	Part No.	Description	Q'ty
R407	401 020 2904	CARBON 47K JA 1/4W	1
R408	401 020 2904	CARBON 47K JA 1/4W	1
R409	401 020 2904	CARBON 47K JA 1/4W	1
R410	401 020 2904	CARBON 47K JA 1/4W	1
R411	401 025 8208	CARBON 22K JA 1/6W	1
R412	401 024 7400	CARBON 10K JA 1/6W	1
R413	401 024 7400	CARBON 10K JA 1/6W	1
R414	401 025 0004	CARBON 120K JA 1/6W	1
R415	401 027 5908	CARBON 68K JA 1/6W	1
R416	401 020 0801	CARBON 470 JA 1/4W	1
R417	401 012 7009	CARBON 10K JA 1/4W	1
R418	401 024 7707	CARBON 100K JA 1/6W	1
R419	401 024 6700	CARBON 100 JA 1/6W	1
R420	401 025 8208	CARBON 22K JA 1/6W	1
R421	401 025 0806	CARBON 13K JA 1/6W	1
R422	401 027 5502	CARBON 6.8K JA 1/6W	1
R423	401 012 5708	CARBON 1K JA 1/4W	1
R424	401 024 7400	CARBON 10K JA 1/6W	1
R425	401 020 0801	CARBON 470 JA 1/4W	1
R426	401 024 7707	CARBON 100K JA 1/6W	1
	VOLUME LED P.C.B. ASSY		
60	620 191 6102	Volume LED P.C.B. Assy	1
	620 185 2820	Reflector	1
D421	407 062 7204	LED SEL2213C	1
	BIAS RIGHT P.C.B. ASSY		
61	620 191 5563	Bias RIGHT P.C.B. Assy	1
Q802	405 026 0803	TR 2SD947	1
D802	407 005 3805	DIODE DS442-BT	1
	POWER LED P.C.B. ASSY		
62	620 191 6119	Power LED P.C.B. Assy	1
	620 051 8222	Spacer	1
D420	407 109 1301	LED SEL1122P	1
	PRE AMPLIFIER P.C.B. ASSY		
63	620 191 6126	Pre Amplifier P.C.B. Assy	1
	620 182 8788	Pin Jack 4P ALL BK	2
	620 182 8795	Pin Jack 6P ALL BK	1
	620 118 0848	Shield Loop	1
CN301	620 018 1686	Socket Jumper 8P	1
CN302	620 189 5551	Socket Jumper 7P	1
VR301	620 188 8188	Volume (W-200kΩ)	1
VR302	620 188 8195	Motor Volume (A-50kΩx2)	1
IC301	409 018 4503	IC LA6458DS	1
IC302	409 109 5105	IC LC7821	1
IC303	409 161 3101	IC TC9214P	1
IC304	409 161 3101	IC TC9214P	1
IC305	409 018 5104	IC LA6458SS	1
IC306	409 114 4803	IC LB1641	1
or	409 085 1900	IC LB1645N	1
Q301	405 010 9904	TR 2SC1571-F-L-NP	1
or	405 011 0009	TR 2SC1571-G-L-NP	1
Q302	405 010 9904	TR 2SC1571-F-L-NP	1
or	405 011 0009	TR 2SC1571-G-L-NP	1
Q303	405 010 9904	TR 2SC1571-F-L-NP	1
or	405 011 0009	TR 2SC1571-G-L-NP	1
Q304	405 010 9904	TR 2SC1571-F-L-NP	1
or	405 011 0009	TR 2SC1571-G-L-NP	1
Q305	405 010 9904	TR 2SC1571-F-L-NP	1
or	405 011 0009	TR 2SC1571-G-L-NP	1
Q306	405 010 9904	TR 2SC1571-F-L-NP	1
or	405 011 0009	TR 2SC1571-G-L-NP	1
Q307	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q308	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q309	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q310	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q311	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q312	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
Q313	405 019 2708	TR 2SC536-F-NP	1
or	405 019 3804	TR 2SC536-G-NP	1
D301	407 050 3607	ZENER DIODE GZA4.7X	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
or	407 050 3706	ZENER DIODE GZA4.7Y				1
or	407 050 3805	ZENER DIODE GZA4.7Z				1
C302	403 072 2703	CERAMIC	0.022U	Z	50V	1
C303	403 047 1502	ELECT	4.7U	M	25V	1
C304	403 047 1502	ELECT	4.7U	M	25V	1
C305	403 018 8509	CERAMIC	220P	K	50V	1
C306	403 018 8509	CERAMIC	220P	K	50V	1
C307	403 009 8105	CERAMIC	100P	K	50V	1
C308	403 009 8105	CERAMIC	100P	K	50V	1
C309	403 039 2906	ELECT	47U	M	6.3V	1
C310	403 039 2906	ELECT	47U	M	6.3V	1
C311	403 059 0401	POLYESTER	0.018U	K	50V	1
C312	403 059 0401	POLYESTER	0.018U	K	50V	1
C313	403 061 8709	POLYESTER	4700P	K	50V	1
C314	403 061 8709	POLYESTER	4700P	K	50V	1
C315	403 049 1609	ELECT	1U	M	50V	1
C316	403 049 1609	ELECT	1U	M	50V	1
C317	403 072 2703	CERAMIC	0.022U	Z	50V	1
C318	403 072 2703	CERAMIC	0.022U	Z	50V	1
C319	403 047 4206	ELECT	47U	M	25V	1
C320	403 047 4206	ELECT	47U	M	25V	1
C321	403 049 1609	ELECT	1U	M	50V	1
C322	403 049 1609	ELECT	1U	M	50V	1
C323	403 009 8105	CERAMIC	100P	K	50V	1
C324	403 009 8105	CERAMIC	100P	K	50V	1
C325	403 049 1609	ELECT	1U	M	50V	1
C326	403 049 1609	ELECT	1U	M	50V	1
C327	403 026 8201	CERAMIC	470P	K	50V	1
C328	403 026 8201	CERAMIC	470P	K	50V	1
C329	403 067 5603	MT-COMPO	0.1U	J	50V	1
C330	403 067 5603	MT-COMPO	0.1U	J	50V	1
C331	403 046 7208	ELECT	330U	M	25V	1
C332	403 046 7208	ELECT	330U	M	25V	1
C333	403 044 8207	ELECT	10U	M	25V	1
C334	403 044 8207	ELECT	10U	M	25V	1
C335	403 049 1609	ELECT	1U	M	50V	1
C336	403 056 8608	POLYESTER	1000P	K	50V	1
C337	403 042 3501	ELECT	100U	M	16V	1
C338	403 004 0500	CERAMIC	0.047U	K	25V	1
C339	403 049 1609	ELECT	1U	M	50V	1
C340	403 049 1609	ELECT	1U	M	50V	1
C341	403 008 5204	CERAMIC	10P	D	50V	1
C342	403 008 5204	CERAMIC	10P	D	50V	1
C343	403 009 8105	CERAMIC	100P	K	50V	1
C344	403 009 8105	CERAMIC	100P	K	50V	1
C345	403 049 1609	ELECT	1U	M	50V	1
C346	403 049 1609	ELECT	1U	M	50V	1
C347	403 050 1209	ELECT	2.2U	M	50V	1
C348	403 050 1209	ELECT	2.2U	M	50V	1
C349	403 059 0401	POLYESTER	0.018U	K	50V	1
C350	403 059 0401	POLYESTER	0.018U	K	50V	1
C351	403 048 7602	ELECT	0.47U	M	50V	1
C352	403 048 7602	ELECT	0.47U	M	50V	1
C353	403 063 6208	POLYESTER	8200P	K	50V	1
C354	403 063 6208	POLYESTER	8200P	K	50V	1
C355	403 063 7809	POLYESTER	0.082U	K	50V	1
C356	403 063 7809	POLYESTER	0.082U	K	50V	1
C357	403 061 8709	POLYESTER	4700P	K	50V	1
C358	403 061 8709	POLYESTER	4700P	K	50V	1
C359	403 059 6601	POLYESTER	0.022U	K	50V	1
C360	403 059 6601	POLYESTER	0.022U	K	50V	1
C361	403 058 1607	POLYESTER	1500P	K	50V	1
C362	403 058 1607	POLYESTER	1500P	K	50V	1
C363	403 061 8709	POLYESTER	4700P	K	50V	1
C364	403 061 8709	POLYESTER	4700P	K	50V	1
C365	403 074 9007	CERAMIC	680P	K	50V	1
C366	403 074 9007	CERAMIC	680P	K	50V	1
C367	403 048 7602	ELECT	0.47U	M	50V	1
C369	403 018 8509	CERAMIC	220P	K	50V	1
C370	403 018 8509	CERAMIC	220P	K	50V	1
C371	403 018 8509	CERAMIC	220P	K	50V	1
C372	403 018 8509	CERAMIC	220P	K	50V	1
C373	403 018 8509	CERAMIC	220P	K	50V	1
C374	403 018 8509	CERAMIC	220P	K	50V	1
C375	403 018 8509	CERAMIC	220P	K	50V	1
C376	403 018 8509	CERAMIC	220P	K	50V	1
C377	403 018 8509	CERAMIC	220P	K	50V	1
C378	403 018 8509	CERAMIC	220P	K	50V	1
C379	403 018 8509	CERAMIC	220P	K	50V	1

Ref. No.	Part No.	Description				Q'ty
C380	403 018 8509	CERAMIC	220P	K	50V	1
C381	403 018 8509	CERAMIC	220P	K	50V	1
C382	403 018 8509	CERAMIC	220P	K	50V	1
C383	403 009 8105	CERAMIC	100P	K	50V	1
C384	403 009 8105	CERAMIC	100P	K	50V	1
R301	401 025 7805	CARBON	2.2K	JA	1/6W	1
R302	401 025 7805	CARBON	2.2K	JA	1/6W	1
R303	401 024 7707	CARBON	100K	JA	1/6W	1
R304	401 024 7707	CARBON	100K	JA	1/6W	1
R305	401 024 7707	CARBON	100K	JA	1/6W	1
R306	401 024 7707	CARBON	100K	JA	1/6W	1
R307	401 026 0607	CARBON	270	JA	1/6W	1
R308	401 026 0607	CARBON	270	JA	1/6W	1
R309	401 025 8703	CARBON	220K	JA	1/6W	1
R310	401 025 8703	CARBON	220K	JA	1/6W	1
R311	401 025 1902	CARBON	15K	JA	1/6W	1
R312	401 025 1902	CARBON	15K	JA	1/6W	1
R313	401 024 7707	CARBON	100K	JA	1/6W	1
R314	401 024 7707	CARBON	100K	JA	1/6W	1
R315	401 016 3809	CARBON	2.2K	JA	1/4W	1
R316	401 016 3809	CARBON	2.2K	JA	1/4W	1
R317	402 035 7601	FUSIBLE RES	100	JA	1/4W	1
R318	402 035 7601	FUSIBLE RES	100	JA	1/4W	1
R319	401 012 5708	CARBON	1K	JA	1/4W	1
R320	401 024 7004	CARBON	1K	JA	1/6W	1
R321	401 012 5708	CARBON	1K	JA	1/4W	1
R322	401 024 7004	CARBON	1K	JA	1/6W	1
R323	401 012 5708	CARBON	1K	JA	1/4W	1
R324	401 024 7004	CARBON	1K	JA	1/6W	1
R325	401 012 5708	CARBON	1K	JA	1/4W	1
R326	401 024 7004	CARBON	1K	JA	1/6W	1
R327	401 012 5708	CARBON	1K	JA	1/4W	1
R328	401 012 5708	CARBON	1K	JA	1/4W	1
R329	401 012 5708	CARBON	1K	JA	1/4W	1
R330	401 012 5708	CARBON	1K	JA	1/4W	1
R331	401 024 7707	CARBON	100K	JA	1/6W	1
R332	401 024 7707	CARBON	100K	JA	1/6W	1
R333	401 024 7707	CARBON	100K	JA	1/6W	1
R334	401 024 7707	CARBON	100K	JA	1/6W	1
R335	401 026 9907	CARBON	4.7K	JA	1/6W	1
R336	401 026 9907	CARBON	4.7K	JA	1/6W	1
R337	401 026 9907	CARBON	4.7K	JA	1/6W	1
R338	401 026 9907	CARBON	4.7K	JA	1/6W	1
R339	401 024 7400	CARBON	10K	JA	1/6W	1
R340	401 012 8105	CARBON	100K	JA	1/4W	1
R342	401 025 8703	CARBON	220K	JA	1/6W	1
R343	401 017 1804	CARBON	2.7K	JA	1/4W	1
R344	401 026 1000	CARBON	2.7K	JA	1/6W	1
R345	401 017 1804	CARBON	2.7K	JA	1/4W	1
R346	401 025 8208	CARBON	22K	JA	1/6W	1
R347	401 026 1000	CARBON	2.7K	JA	1/6W	1
R348	401 025 8208	CARBON	22K	JA	1/6W	1
R349	401 024 7707	CARBON	100K	JA	1/6W	1
R350	401 024 7707	CARBON	100K	JA	1/6W	1
R351	401 026 9907	CARBON	4.7K	JA	1/6W	1
R352	401 026 9907	CARBON	4.7K	JA	1/6W	1
R353	401 026 9907	CARBON	4.7K	JA	1/6W	1
R354	401 026 9907	CARBON	4.7K	JA	1/6W	1
R355	401 024 7707	CARBON	100K	JA	1/6W	1
R356	401 024 7707	CARBON	100K	JA	1/6W	1
R357	401 024 9305	CARBON	1.2K	JA	1/6W	1
R358	401 024 9305	CARBON	1.2K	JA	1/6W	1
R359	401 025 2305	CARBON	150K	JA	1/6W	1
R360	401 025 2305	CARBON	150K	JA	1/6W	1
R361	401 026 6609	CARBON	390	JA	1/6W	1
R362	401 026 6609	CARBON	390	JA	1/6W	1
R363	401 027 8602	CARBON	8.2K	JA	1/6W	1
R364	401 027 8602	CARBON	8.2K	JA	1/6W	1
R365	401 024 9305	CARBON	1.2K	JA	1/6W	1
R366	401 024 9305	CARBON	1.2K	JA	1/6W	1
R367	401 024 7707	CARBON	100K	JA	1/6W	1
R368	401 024 7707	CARBON	100K	JA	1/6W	1
R369	401 026 6609	CARBON	390	JA	1/6W	1
R370	401 026 6609	CARBON	390	JA	1/6W	1
R371	401 027 8602	CARBON	8.2K	JA	1/6W	1
R372	401 027 8602	CARBON	8.2K	JA	1/6W	1
R373	401 025 1605	CARBON	1.5K	JA	1/6W	1
R374	401 025 1605	CARBON	1.5K	JA	1/6W	1
R375	401 026 7408	CARBON	39K	JA	1/6W	1

P.C.BOARD PARTS LIST (Continued)

Ref. No.	Part No.	Description				Q'ty
R376	401 026 7408	CARBON	39K	JA	1/6W	1
R377	401 026 6609	CARBON	390	JA	1/6W	1
R378	401 026 6609	CARBON	390	JA	1/6W	1
R379	401 027 8602	CARBON	8.2K	JA	1/6W	1
R380	401 027 8602	CARBON	8.2K	JA	1/6W	1
R381	401 025 1605	CARBON	1.5K	JA	1/6W	1
R382	401 025 1605	CARBON	1.5K	JA	1/6W	1
R383	401 026 4605	CARBON	33K	JA	1/6W	1
R384	401 026 4605	CARBON	33K	JA	1/6W	1
R385	401 026 6609	CARBON	390	JA	1/6W	1
R386	401 026 6609	CARBON	390	JA	1/6W	1
R387	401 027 8602	CARBON	8.2K	JA	1/6W	1
R388	401 027 8602	CARBON	8.2K	JA	1/6W	1
R389	401 025 1605	CARBON	1.5K	JA	1/6W	1
R390	401 025 1605	CARBON	1.5K	JA	1/6W	1
R391	401 025 8208	CARBON	22K	JA	1/6W	1
R392	401 025 8208	CARBON	22K	JA	1/6W	1
R393	401 026 6609	CARBON	390	JA	1/6W	1
R394	401 026 6609	CARBON	390	JA	1/6W	1
R395	401 027 8602	CARBON	8.2K	JA	1/6W	1
R396	401 027 8602	CARBON	8.2K	JA	1/6W	1
R397	401 012 3407	CARBON	10	JA	1/4W	1
R398	401 012 3407	CARBON	10	JA	1/4W	1
R399	401 025 8208	CARBON	22K	JA	1/6W	1
GRAPHIC EQ. VOLUME P.C.B. ASSY						
64	620 191 6133	Graphic EQ. Volume P.C.B. Assy				1
VR303	620 188 8171	Volume (W-250kΩx2)				1
VR304	620 188 8171	Volume (W-250kΩx2)				1

Ref. No.	Part No.	Description	Q'ty
VR305	620 188 8171	Volume (W-250kΩx2)	1
VR306	620 188 8171	Volume (W-250kΩx2)	1
VR307	620 188 8171	Volume (W-250kΩx2)	1
CD REMOCON P.C.B. ASSY			
65	620 191 5570	CD Remocon P.C.B. Assy	1
	620 190 9524	Bracket Connect PC	1
CN109	620 021 2045	Plug 4P	1

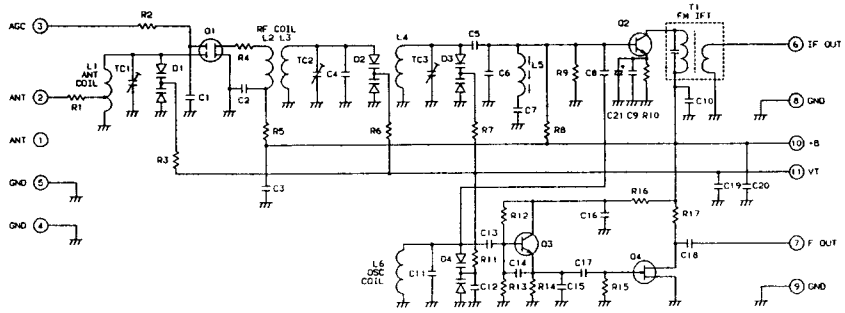
NOTES:

1. Parts order must contain Model Number, Part Number and Description.
2. Ordering quantity of screws and resistors must be multiple of 10 pcs.

PRODUCT SAFETY NOTICE

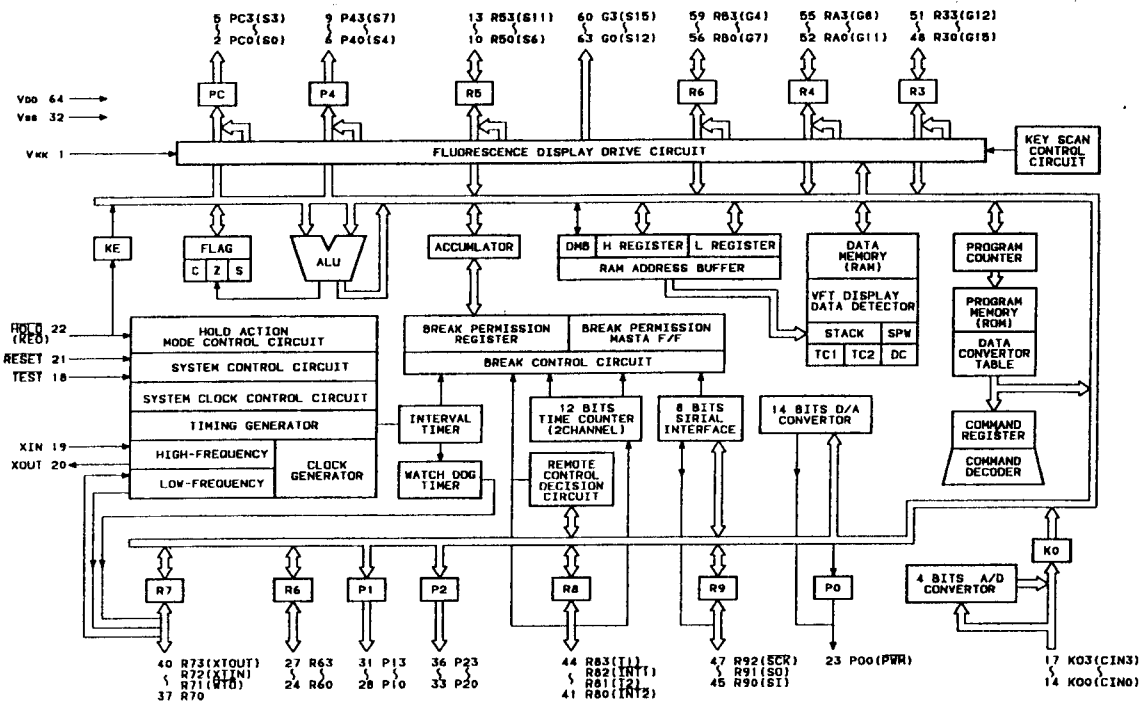
Each precaution in this manual should be followed during servicing. Components identified with the IEC symbol ⚠ in the parts list and the schematic diagram designate components in which safety can be of special significance. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings of resistance, wattage or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before returning the product to the customer.

FRONT END SCHEMATIC DIAGRAM

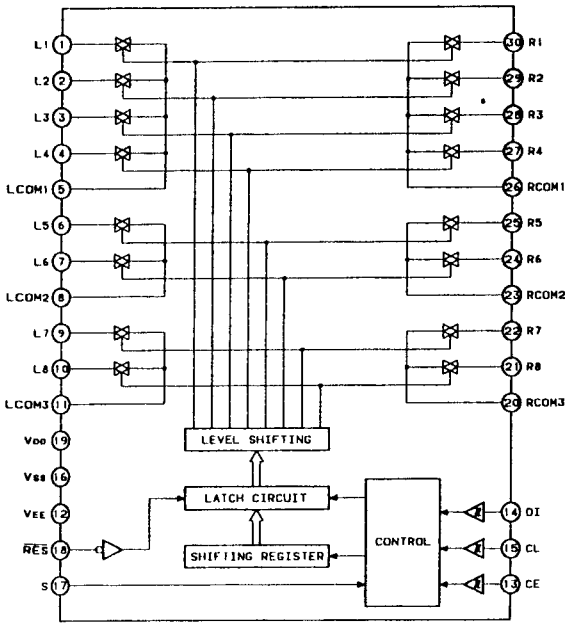


IC BLOCK DIAGRAM

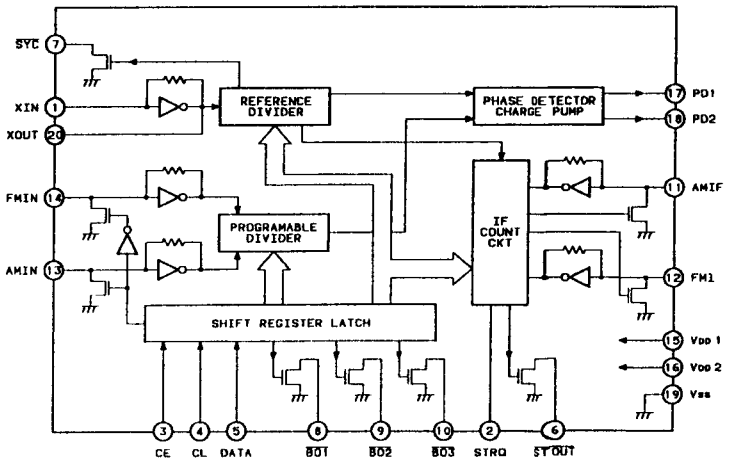
TMP47C870N-4627 BLOCK DIAGRAM



LC7821 BLOCK DIAGRAM



LM7000 BLOCK DIAGRAM



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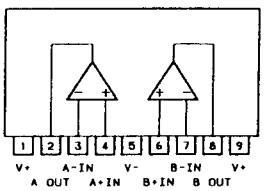
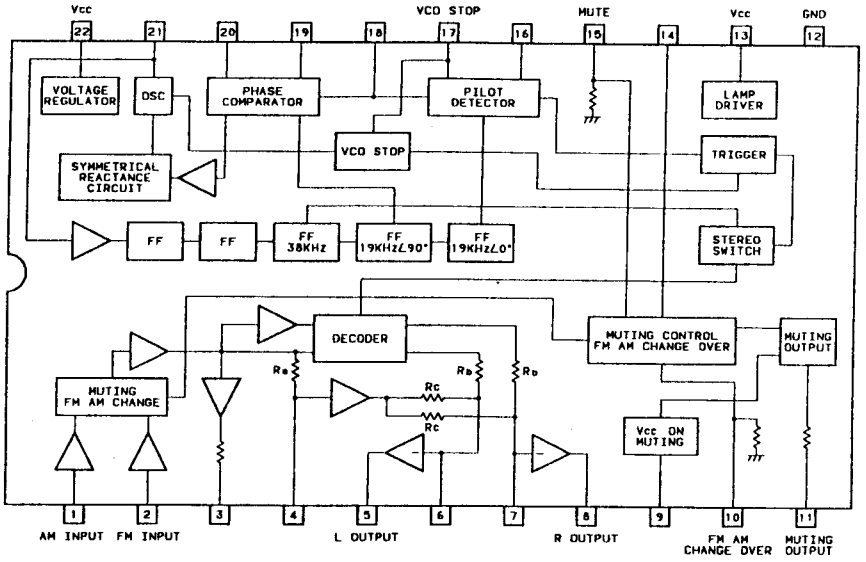


IC BLOCK DIAGRAM (Continued)

LA3401 BLOCK DIAGRAM



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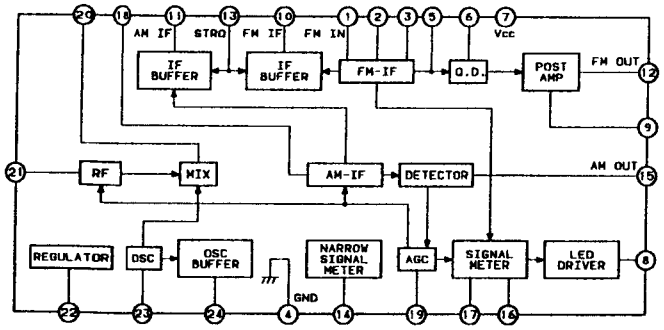

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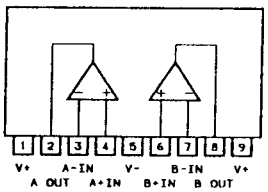

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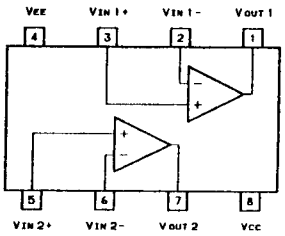

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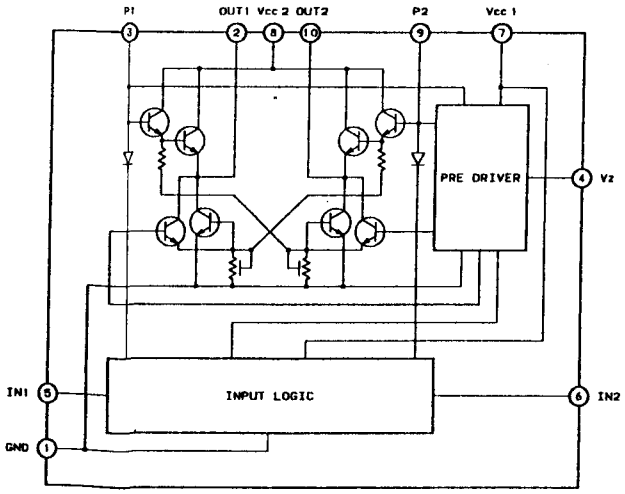
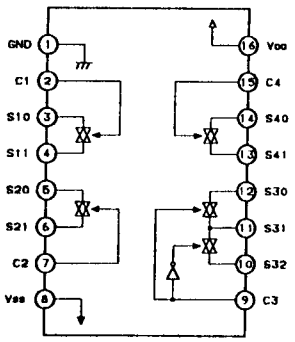


TC9214P BLOCK DIAGRAM



IC & TRANSISTOR DC VOLTAGES

IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC101	LA1266	2.5V	2.5V	2.5V	0V	12.5V	12.4V	12.4V	5.7V	4.0V	2.4V	2.8V	3.1V	0V	1.6V	1.5V	0V	0V	2.5V	1.5V	0V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		3.9V	0V	3.9V	3.2V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC102	LA3401	3.1V	3.1V	3.1V	3.1V	2.9V	3.1V	3.1V	2.9V	3.0V	0V	0V	0V	5.7V	4.9V	0V	1.5V	2.8V	2.6V	2.7V	2.7V
		21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
		3.4V	12.0V	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																					
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
IC103	LM7000	1.6V	0V	0V	0V	0V	5.7V	0V	0.1V	0.1V	2.9V	0V	0V	0V	2.7V	5.2V	5.2V	1.4V	1.5V	0V	1.6V
IC104	LA6462	15.5V	0V	0V	0V	– 15.2V	0V	0V	0V	15.6V	–	–	–	–	–	–	–	–	–	–	–
IC105	LA6458	15.6V	0V	0V	0V	– 15.2V	0V	0V	0V	15.6V	–	–	–	–	–	–	–	–	–	–	–

IC PIN NUMBERS DC VOLTAGES																	
Ref. No.	DEVICE	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
IC301	LA6458	0V	0V	0V	– 16.6V	0V	0V	0V	17.5V	–	–	–	–	–	–	–	–
IC303	TC9214	0V	5.0V	0V	0V	0V	0V	0V	– 14.4V	0.1V	0V	0V	0V	0V	0.4V	0V	16.2V
IC304	TC9214	0V	5.0V	0V	0V	0V	0V	0V	– 14.4V	0.1V	0V	0V	0V	0V	0.4V	0V	16.2V
IC305	LA6458	18.3V	0V	0V	0V	– 17.3V	0V	0V	0V	18.3V	–	–	–	–	–	–	–
IC306	LB1641	0V	0.5V	0.7V	0.3V	0V	0V	12.8V	12.8V	0.7V	0.5V	–	–	–	–	–	–

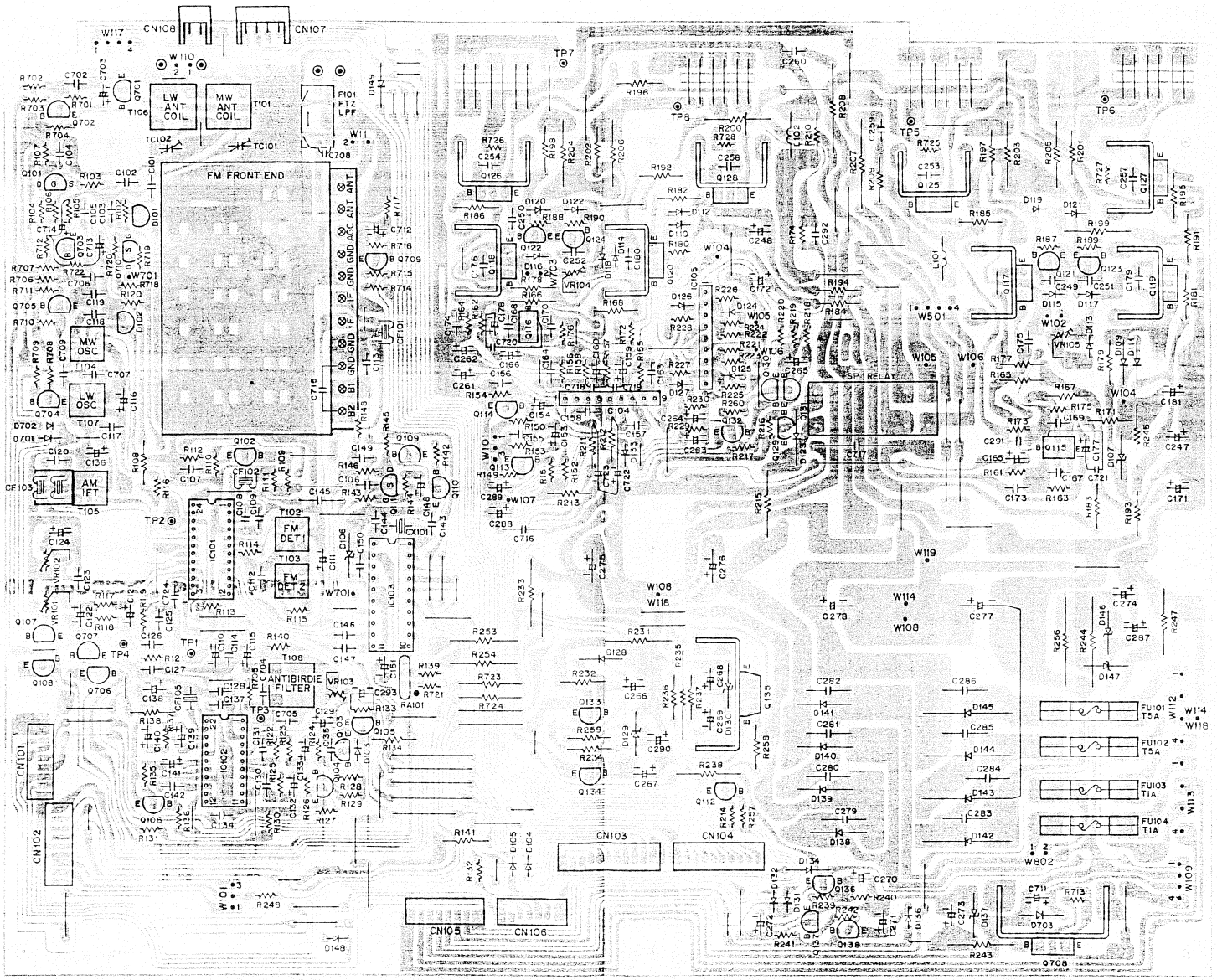
TRANSISTOR DC VOLTAGES														
Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q102	2SC930	1.8V	11.8V	1.1V	Q121	2SC536	0V	0.9V	0V	Q701	2SD1012	0.7V	0V	0V
Q103	2SC536	– 0.2V	0V	0V	Q122	2SC536	0V	0.9V	0V	Q702	2SC536	0V	8.7V	0V
Q104	2SC536	– 0.2V	0V	0V	Q123	2SA608	0V	– 0.7V	0.7V	Q703	2SC536	– 0.1V	12.3V	0V
Q105	2SC536	0.6V	0V	0V	Q124	2SA608	0V	– 0.9V	0V	Q704	2SD1012	0V	12.3V	0V
Q106	2SC536	0.6V	0V	0V	Q125	2SC3117	1.0V	57.1V	0.5V	Q705	2SD1012	0V	12.4V	0V
Q107	2SA1346	0V	0V	0V	Q126	2SC3117	1.1V	57.6V	0.5V	Q706	2SC536	0.1V	12.3V	0V
Q108	2SC536	0V	0V	0V	Q127	2SA1249	– 1.0V	– 57.0V	– 0.5V	Q707	2SA1346	0V	12.3V	0.1V
Q109	2SA1346	0V	12.3V	12.4V	Q128	2SA1249	– 1.1V	– 57.3V	– 0.5V	Q708	2SD325	12.4V	21.0V	13.0V
Q110	2SC536	0.6V	0V	0V	Q129	2SC536	0.7V	0V	0V	Q709	2SD1012	0V	4.0V	0V
Q112	2SC536	0.6V	0V	0V	Q130	2SC536	0V	4.3V	0V	Q901	2SC3281	0.5V	57.8V	0V
Q113	2SD1012	– 1.4V	0V	0V	Q131	2SC536	0V	4.3V	0V	Q902	2SC3281	0.5V	57.5V	0V
Q114	2SD1012	– 1.4V	0V	0V	Q132	2SA608	4.3V	0V	4.9V	Q903	2SA1302	– 0.5V	– 57.8V	0V
Q115	2SC3066	0V	55.5V	– 0.6V	Q133	2SD438	13.2V	24.1V	12.6V	Q904	2SA1302	– 0.5V	– 57.8V	0V
Q116	2SC3066	55.7V	1.0V	56.4V	Q134	2SB560	– 17.9V	– 24.6V	– 17.3V			D	G	S
Q117	2SA1209	55.5V	1.1V	56.1V	Q135	2SD1406	17.6V	25.3V	18.2V	Q101	2SK246	11.4V	2.0V	3.2V
Q118	2SA1209	56.1V	1.1V	56.6V	Q136	2SC536	5.5V	11.8V	0V	Q111	2SK583	1.5V	0V	1.9V
Q119	2SC2911	– 55.4V	– 1.0V	– 56.0V	Q137	2SC536	0V	5.6V	0V	Q710	2SK583	1.5V	0V	1.9V
Q120	2SC2911	– 56.0V	– 1.0V	– 56.6V	Q138	2SA608	5.7V	0V	5.6V					

TRANSISTOR DC VOLTAGES														
Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q301	2SC1571	– 1.2V	18.3V	– 1.8V	Q306	2SC1571	– 0.7V	17.6V	– 1.3V	Q311	2SC536	– 0.1V	17.5V	– 0.7V
Q302	2SC1571	– 1.1V	18.3V	– 1.8V	Q307	2SC536	– 0.2V	17.6V	– 0.8V	Q312	2SC536	– 0.1V	17.5V	– 0.7V
Q303	2SC1571	– 0.8V	17.6V	– 1.5V	Q308	2SC536	– 0.2V	17.6V	– 0.8V	Q313	2SC536	0.5V	0V	0V
Q304	2SC1571	– 0.8V	17.6V	– 1.5V	Q309	2SC536	– 0.2V	17.5V	– 0.8V					
Q305	2SC1571	– 0.7V	17.6V	– 1.3V	Q310	2SC536	– 0.2V	17.5V	– 0.8V					

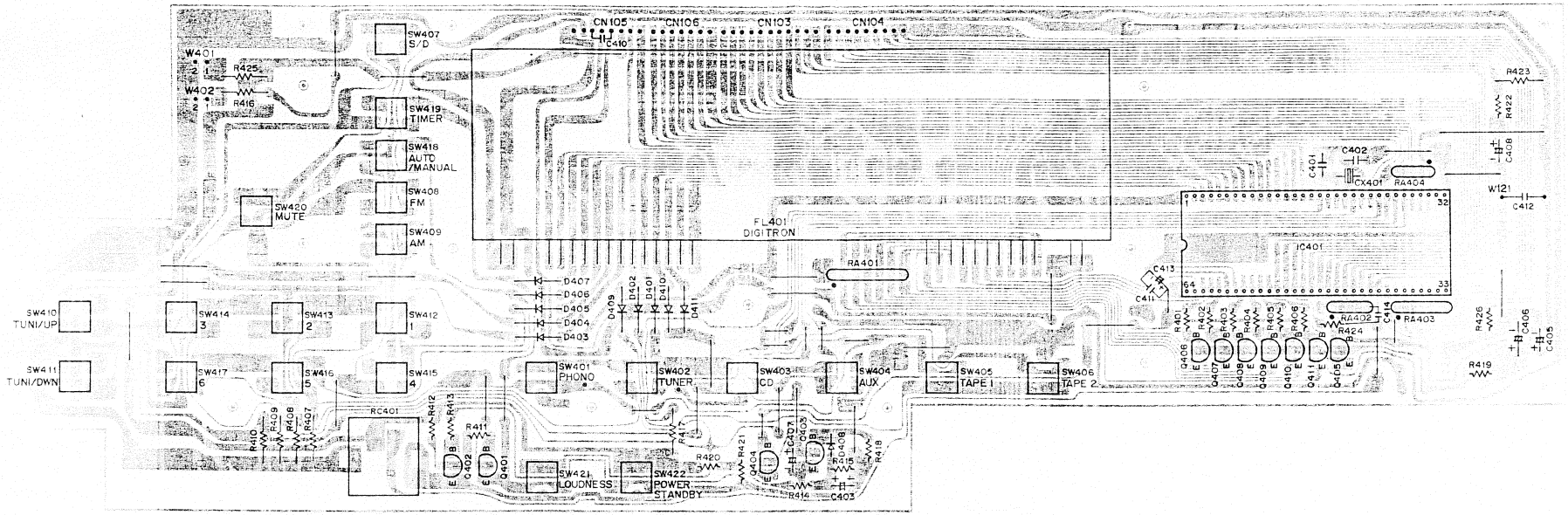
TRANSISTOR DC VOLTAGES														
Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E	Ref. No.	DEVICE	B	C	E
Q401	2SA608	5.7V	0V	1.6V	Q405	2SC536	5.7V	4.9V	5.0V	Q409	2SC536	– 25.5V	– 31.0V	– 28.2V
Q402	2SC536	0V	5.7V	0V	Q406	2SC536	– 26.7V	– 31.0V	– 28.2V	Q410	2SC536	– 25.4V	– 31.0V	– 28.2V
Q403	2SC536	0V	4.9V	0V	Q407	2SC536	– 26.7V	– 31.0V	– 28.2V	Q411	2SC536	– 25.6V	– 31.0V	– 28.2V
Q404	2SA608	4.9V	0V	2.1V	Q408	2SC536	– 26.5V	– 31.0V	– 28.2V					

NOTES:
All voltages indicated on the schematics are measured under the following conditions.
a. Use a V.T.V.M.
b. All voltages ± 10 % with respect to chassis ground.
c. No signals at input terminals.
d. AC input at 220 volts 50 Hz.

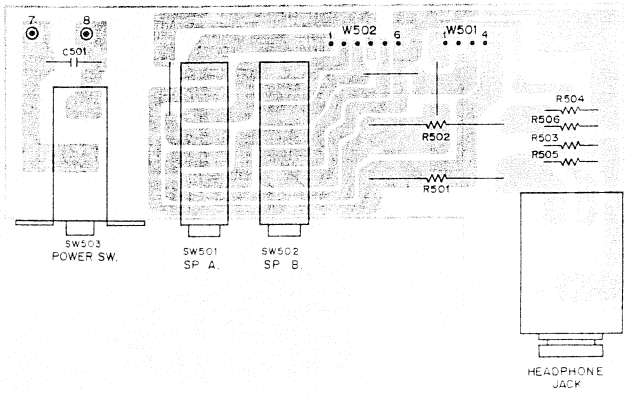
RF MAIN PRINTED CIRCUIT BOARD
(BOTTOM VIEW)



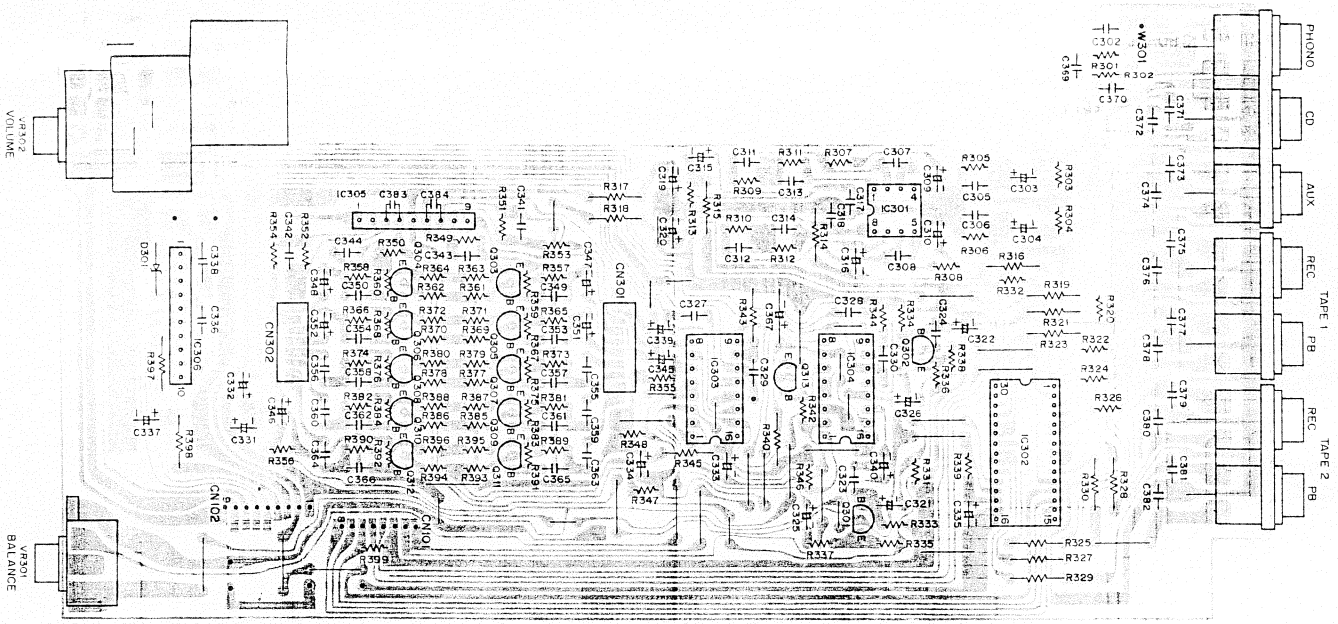
CONTROL PRINTED CIRCUIT BOARD
(BOTTOM VIEW)



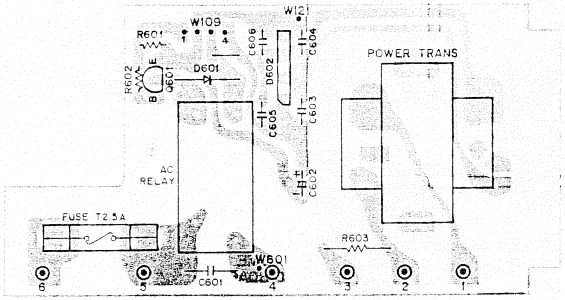
AC SWITCH PRINTED CIRCUIT BOARD
(BOTTOM VIEW)



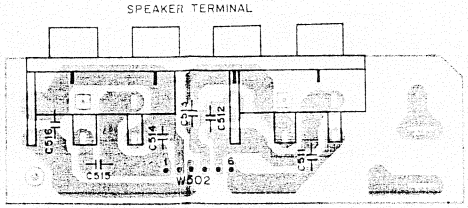
MASTER VOLUME PRINTED CIRCUIT BOARD
(BOTTOM VIEW)



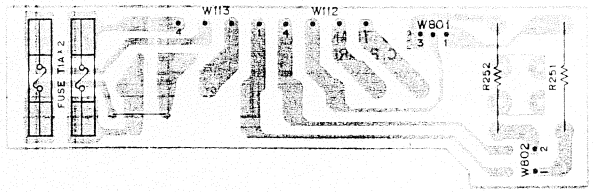
SUB TRANS PRINTED CIRCUIT BOARD
(BOTTOM VIEW)



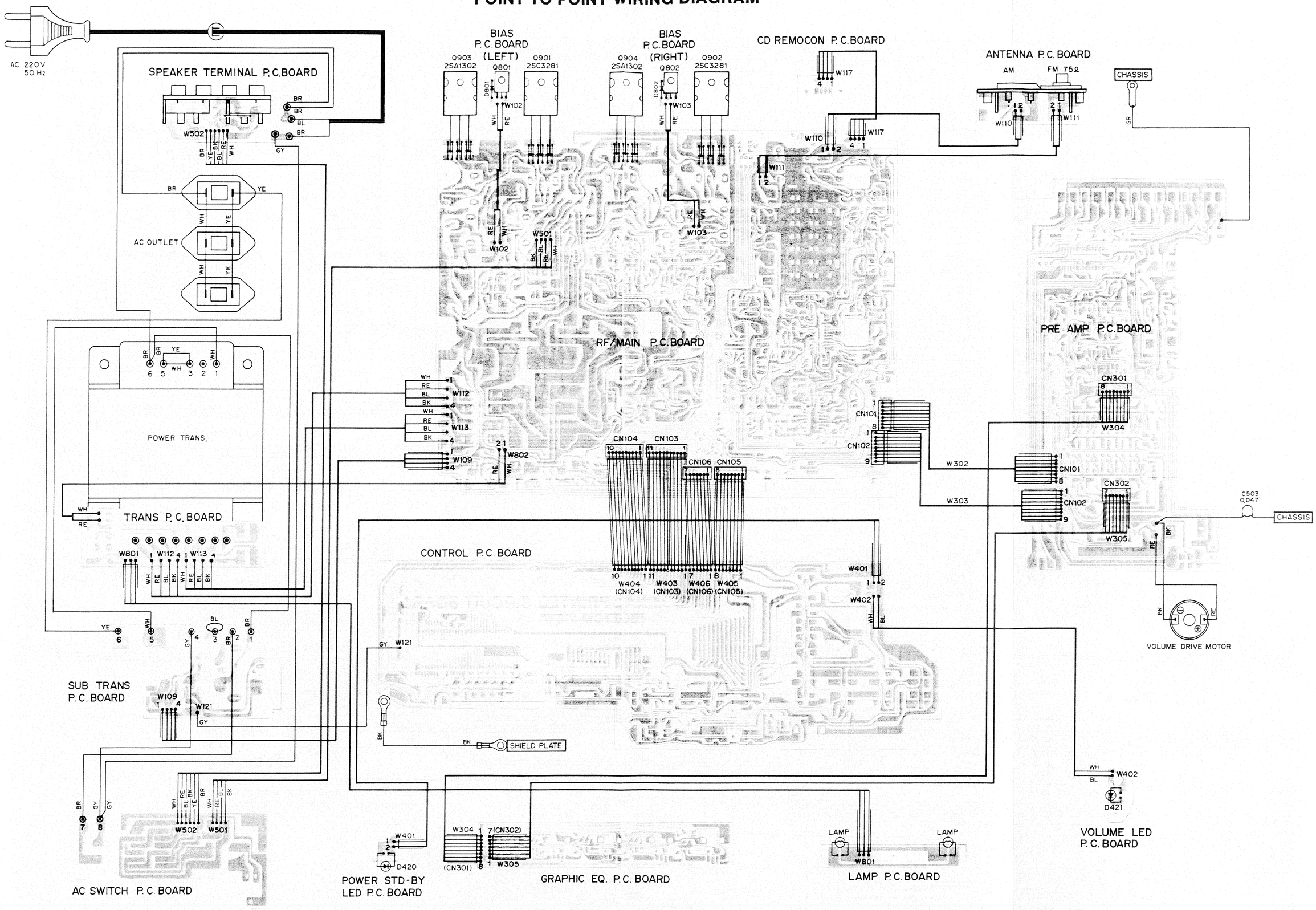
SPEAKER TERMINAL PRINTED CIRCUIT BOARD
(BOTTOM VIEW)



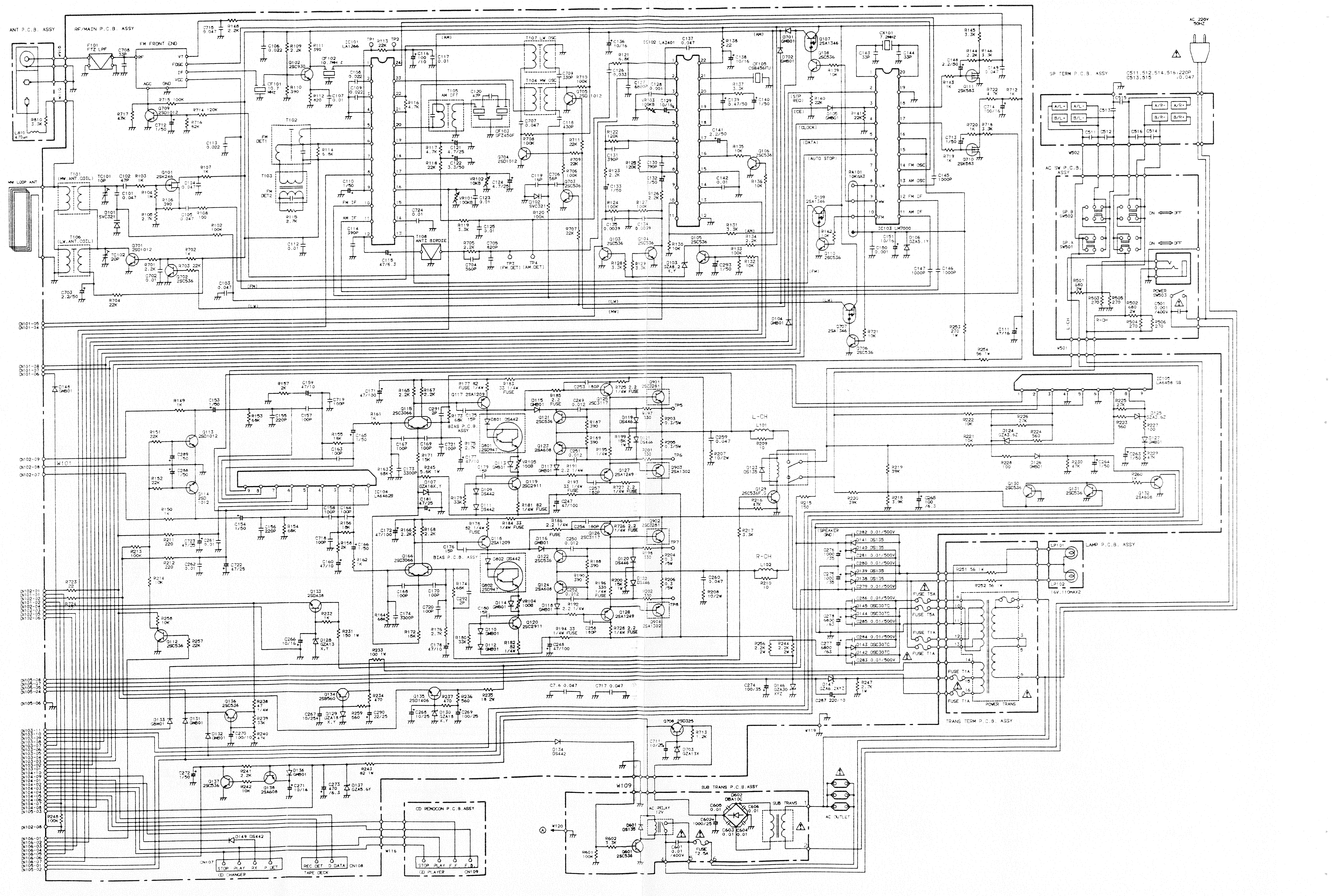
TRANS TERMINAL PRINTED CIRCUIT BOARD
(BOTTOM VIEW)



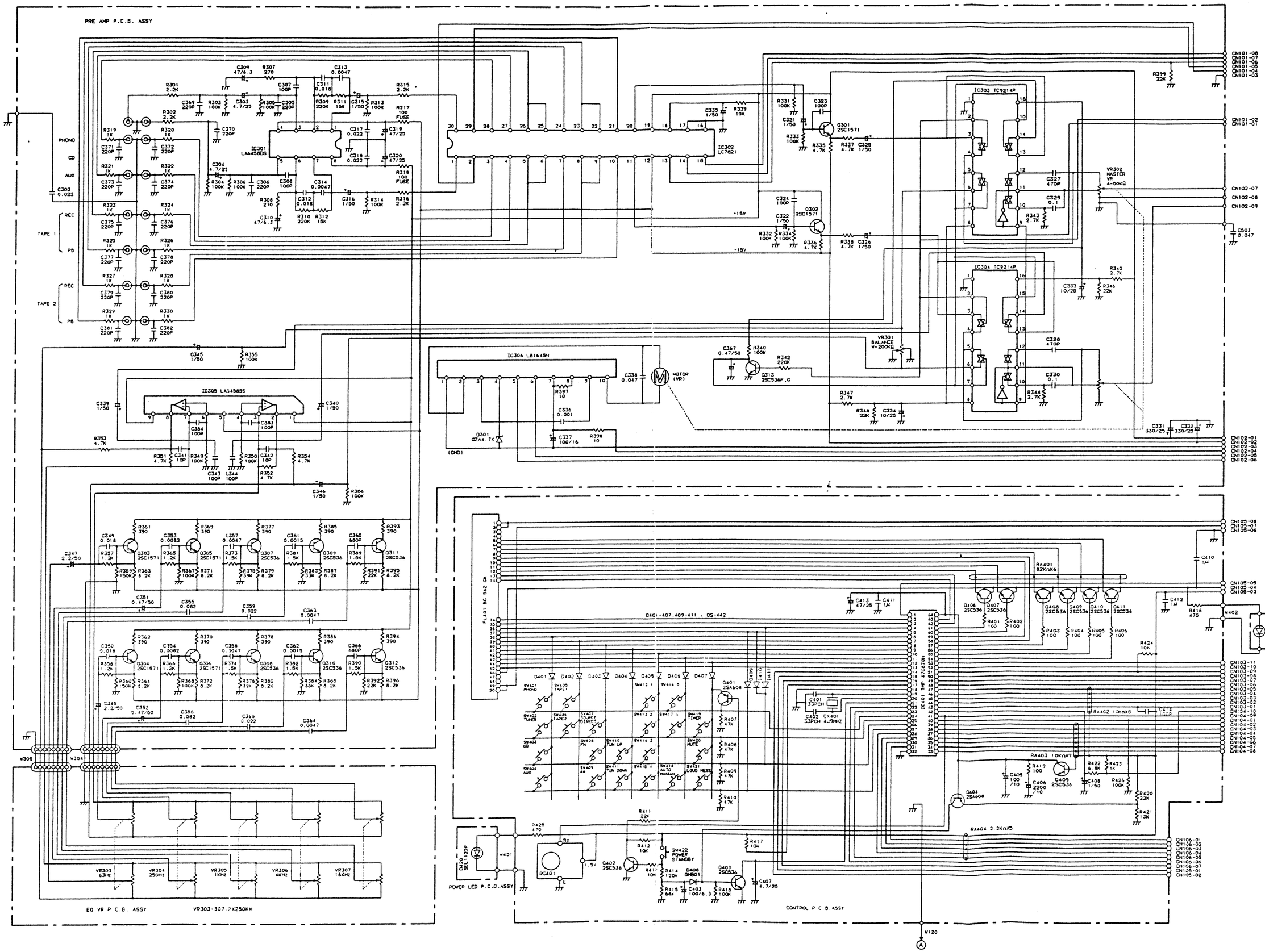
POINT TO POINT WIRING DIAGRAM



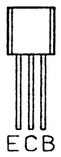
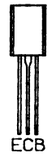
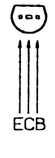
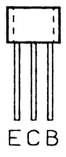
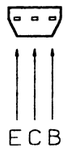
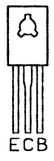
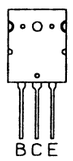
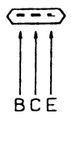
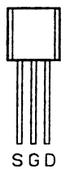
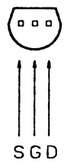
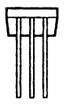
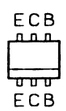
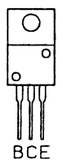
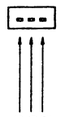
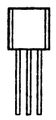
SCHEMATIC DIAGRAM 1


ANT P.C.B. ASSY
RF/MAIN P.C.B. ASSY
FM FRONT END
F101 FTZ LPF
MW LOOP ANT
T101 (MW.ANT.COIL)
T106 (LW.ANT.COIL)
IC101 LA1266
T102
FM DET1
T103
FM DET2
T105 AM IFT
T107 LW OSC
T104 MW OSC
CF103 SFZ450F
T108 ANTI BIRDIE
TP3 (FM.DET)
TP4 (AM.DET)
IC102 LA3401
CF105 CSB456FU
CX101 7.2MHZ
IC103 LM7000
RA101 10KΩX3
(STP REQ)
(CE)
(CLOCK)
(DATA)
(AUTO STOP)
14 FM OSC
13 AM OSC
12 FM IF
11 AM IF
AC 220V 50HZ
SP TERM P.C.B. ASSY
C511,512,514,516:220P
C513,515 :0.047
A/L+
A/L-
B/L+
B/L-
A/R-
A/R+
B/R-
B/R+
AC SW P.C.B. ASSY
SP.B SW502
SP.A SW501
ON ⟺ OFF
POWER SW503
L-CH
R-CH
W501
W502
IC104 LA6462S
IC105 LA6458 SS
BIAS P.C.B. ASSY
L-CH
R-CH
(SPEAKER GND)
LAMP P.C.B. ASSY
LP101
LP102
16V, 110mAX2
POWER TRANS
TRANS TERM P.C.B. ASSY
FUSE T5A
FUSE T1A
SUB TRANS P.C.B.ASSY
SUB TRANS
AC RELAY 12V
FUSE T2.5A
AC OUTLET
W109
W116
W119
W120
CD REMOCON P.C.B.ASSY
CN107
STOP PLAY RX P.DET
CD CHANGER
REC.DET D.DATA CN108
TAPE DECK
STOP PLAY F.F. F.B.
CD PLAYER CN109

SCHEMATIC DIAGRAM 2



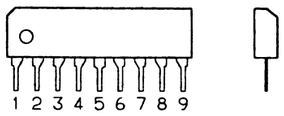
IC & TRANSISTOR LEAD IDENTIFICATION

TRANSISTOR	FRONT VIEW	BOTTOM VIEW	TRANSISTOR	FRONT VIEW	BOTTOM VIEW
2SA608 2SC1571 2SC536 2SC930			2SB560 2SD438		
2SA1346 2SA608 2SC536 2SD1012			2SA1209 2SA1249 2SC2911 2SC3117 2SD947		
2SA1302 2SC3281			2SK246		
2SC3066			2SD1406		
2SD325			2SK583		

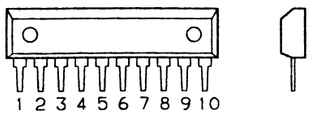
TERMINAL NAME

B → BASE
C → COLLECTOR
E → EMITTER
S → SOURCE
G → GATE
D → DRAIN

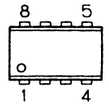
LA6458SS FRONT/SIDE VIEWS
LA6462S FRONT/SIDE VIEWS



LB1641 FRONT/SIDE VIEWS

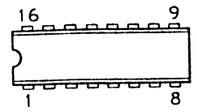


LA6458DS TOP VIEW

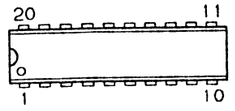


IC & TRANSISTOR LEAD IDENTIFICATION (Continued)

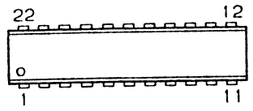
TC9214P TOP VIEW



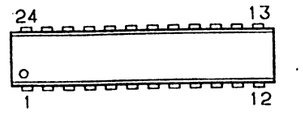
LM7000 TOP VIEW



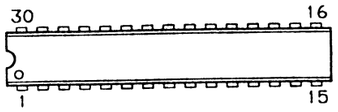
LA3401 TOP VIEW



LA1266 TOP VIEW



LC7821 TOP VIEW



TMP47C870N-4627 TOP VIEW

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SERV. 30635

SERVICE MANUAL

FISHER

FM STEREO MW/LW RECEIVER WITH REM-915 WIRELESS REMOTE CONTROL

RS-1913

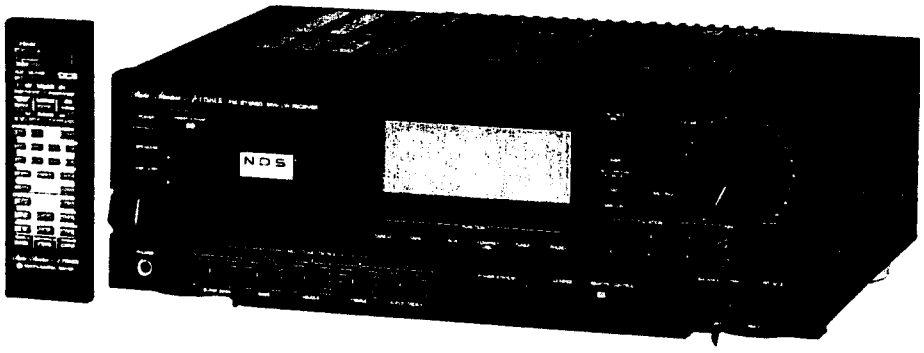
(EUROPE)

132 338 41

This service manual is prepared for Model RS-1913. As only the components in the chart below differ, refer to the service manual RS-913 (WM-570087) for other components.

Ref.No.	RS-913	RS-1913	Description	Q'ty
	PACKAGE 620 191 8571	620 205 3134	Box Corrugate-Exp.	1
	ACCESSORIES 620 191 6706	620 205 2595	Instruction Manual	1
	CABINET			
7	620 191 4474	620 205 3103	Cover,Heat Sink	1
19	620 191 4580	620 205 3110	Assy,Cabinet	1

Add this sheet Model RS-913 Service Manual (WM-570087).



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Tel: 089/420 45-0
Tlx: 524033

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